



April 10, 2012

Ms. Kimberly Tisa  
PCB Coordinator  
U.S. Environmental Protection Agency Region 1  
5 Post Office Square – Suite 100  
Boston, Massachusetts 02109-3912

Re: PCB Remediation Plan Modification Request No. 9  
Peabody Terrace Housing Facility – Exterior Pedestrian Underpass Tunnels  
900 Memorial Drive, Cambridge, Massachusetts

Dear Ms. Tisa:

On behalf of the President and Fellows of Harvard College (Harvard), Woodard & Curran has prepared this modification request to the Notification<sup>1</sup> in accordance with Condition 17 of the United States Environmental Protection Agency's (EPA) April 15, 2010 Risk-Based PCB Cleanup and Disposal Approval under 40 CFR 761.61(c) and 761.79(h) (the Approval) for the Peabody Terrace Housing Complex in Cambridge, Massachusetts (the site). This modification request concerns the three exterior pedestrian underpass tunnels present between Buildings B and C, Buildings E and F, and Building D.

#### Background

Three pedestrian underpass tunnels are present between Buildings B and C, Buildings E and F, and Building D as shown on the attached Figure 1. The tunnels are covered "openings" between the buildings (first floor) where pedestrians can "cut-through" the building for access around the complex. The construction of the façade within these tunnels is similar to the rest of the building exteriors, with concrete walls and caulked expansion joints. Each tunnel measures 40 feet in length and approximately 7.25 feet in height, for a total façade square footage of 580 ft<sup>2</sup> in each tunnel (290 ft<sup>2</sup> per side), and a total ground surface area of 480 ft<sup>2</sup> (tunnel widths each range from 11 to 13 feet). A total of approximately 250 linear feet of caulking is present within the joints of the tunnel walls within each underpass. A photo of the typical underpass tunnel construction is provided on the following page.

#### Remedial Approach – Tunnel Walls and Joints

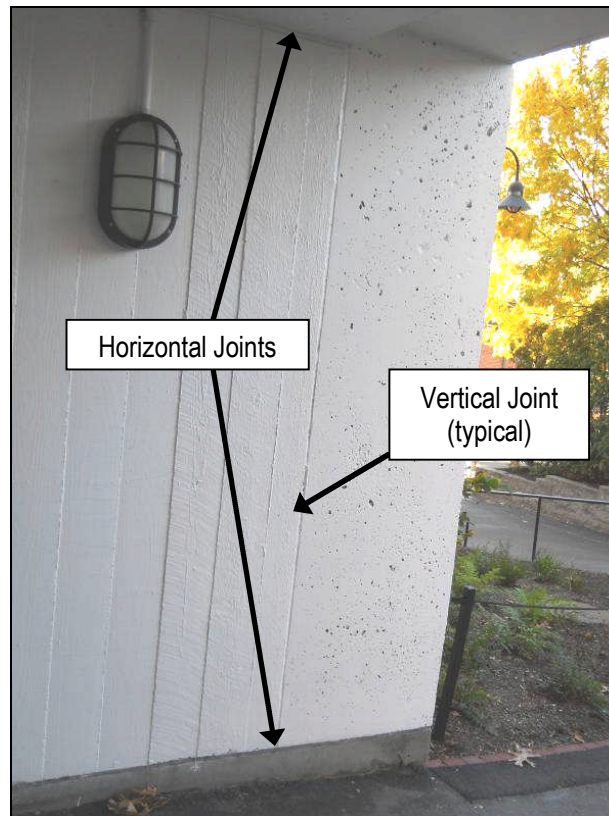
In accordance with the remediation plan for exterior building materials set forth in the Notification, and the conditions of the Approval, the remedial approach for the underpass tunnel walls is as follows:

- Remove caulking, encapsulate the inner joint returns with epoxy, and apply new caulking within the joints (no modification to this approach is being requested). This remedial approach is consistent with the other exterior joints on the facades and verification samples have been (or will be) collected from each façade at the frequencies established in the Notification.

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<sup>1</sup> The Notification consists of the information submitted by Woodard & Curran to satisfy the requirements under 40 CFR 761.61(c), 761.62, and 761.79(h). Information provided was dated February 16, 2010 (Building A Plan); April 6, 2010 (Buildings B, C, X Plan); February 16, 2011 (Modification Request No. 4 – PCB Remediation Plan Modification – Buildings E, F, and Y); February 27, 2012 (Modification No. 8 – Buildings D and Z Plan); and subsequent modifications and related submittals.

- Similar to the building facades on each of the buildings, a coating is to be applied to the concrete away from the caulked joints. The majority of the tunnel walls are covered with an existing white paint; therefore, the walls will be repainted using a white paint/coating in place of the clear coating applied to other façade areas (in some areas, the concrete is not painted and the standard clear coating will be applied in these areas). Following coating application, wipe samples for PCB analyses will be collected at a frequency of one surface wipe sample per tunnel.



#### Remedial Approach – Tunnel Ground Surfaces

Consistent with the project plans, characterization samples were collected from asphalt surfaces located adjacent to caulked joints within all three tunnels. Sample results have been reported with PCBs > 1 ppm as summarized in Table 1. The three tunnels and respective sample locations are shown on Figure 1.

Two samples collected at the western end of the E/F tunnel at a distance of 3 inches from the caulked joint were reported with PCBs at 6.59 and 11.2 ppm. Samples collected from each tunnel at a distance of 18 inches from the caulked joint were reported with PCBs ranging from 2.14 to 4.76 ppm (average 3.1 ppm), suggesting decreasing concentrations of PCBs with increasing distance from the caulking (similar to other adjacent ground surfaces).



Due to the limited accessibility to each tunnel and a low overhead clearance height of 7.25 feet, the use of conventional excavation equipment is not feasible to remove the underpass asphalt. In addition, an adjacent section of asphalt at the west end of the E/F tunnel is inaccessible for excavation due to an overhead balcony at a height of 7.25 feet (this location was previously proposed for removal in the September 21, 2011 Soil Remediation Plan).

Given these removal limitations and as an alternative, this modification request proposes an in-place encapsulation approach for remediation of the asphalt surfaces within the tunnels and within 5 feet of the west end of the E/F tunnel following the same approach as is being applied for the vertical surfaces.

To assess a viable coating to use for this application, a pilot test was performed with CIM 1061, which is a liquid elastomeric urethane coating designed for outdoor (UV protection) and heavy use. An area within the Building E/F underpass (a 3.0 by 1.3 foot area adjacent to the façade) was selected and the coating applied (see photograph to the right).



**Asphalt Coating Pilot Test Area**

The coating was able to be applied effectively and visually created a barrier on top of the asphalt (Note – an aggregate may need to be applied during the application for slip resistance).

To assess the coatings ability to contain residual PCBs in the asphalt, a surface wipe sample was collected from the cured surface at a distance of 0.1 feet from the building. The result of this surface wipe sample was reported as non-detect for PCBs ( $< 0.5 \text{ ug}/100\text{cm}^2$ ) at a location where an adjacent bulk asphalt sample had been reported with PCBs at a concentration of 6.59 ppm (see attached Table 1).

The full-scale application of the asphalt encapsulant coating will be performed after the remediation and restoration of the underpass walls as described above. To verify the effectiveness of the asphalt coating, a total of six verification surface wipe samples (two per tunnel) will be collected from the encapsulated surfaces at locations biased toward the former caulking on the building walls (i.e., within 1.5 feet of the building for comparison to underlying asphalt bulk sample data). The proposed sample frequency is equivalent to a frequency of 1 sample per 40 linear feet of removed caulking along the tunnel walls.

Analytical results from the wipe samples will be compared to the  $1 \text{ ug}/100 \text{ cm}^2$  target action level to determine whether or not this task is complete. If the target action level is met, the task will be considered complete. If the target action level is not met, an additional surface coating may be applied, and a follow-up surface wipe sample collected at an off-set location. After verification that target action levels are met, the remediation of the asphalt surfaces will be considered complete, and the encapsulated surfaces will be incorporated into the deed notice and long-term monitoring program to be implemented at the site.



If you have any comments, questions, or require further information, please do not hesitate to contact me at the number listed above.

Sincerely,

WOODARD & CURRAN INC.

Jeffrey Hamel, LSP, LEP  
Senior Vice President

Enclosures:    Table 1 – Underpass Asphalt Characterization Data  
                     Figure 1 – Building Underpasses  
                     CIM 1061 Technical Specification  
                     Analytics Environmental Laboratory Reports

cc:            Karen Sardone, Harvard  
                 Chris Packard, JLL

**Table 1**  
**Underpass Asphalt Characterization Data**  
**Peabody Terrace, Cambridge, Massachusetts**

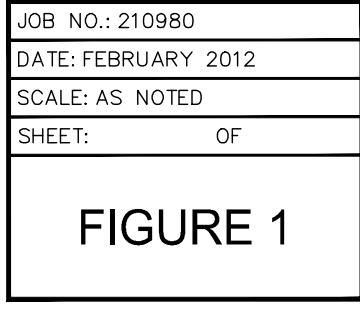
| Media                         | Sample Depth (inches) | Lateral Distance from Façade (feet) | Sample Date | Sample ID      | Detection Limit | Total PCBs  | Qualifier |
|-------------------------------|-----------------------|-------------------------------------|-------------|----------------|-----------------|-------------|-----------|
| <b>Building E/F Underpass</b> |                       |                                     |             |                |                 |             |           |
| Asphalt                       | 0-0.5                 | 0.25                                | 10/27/11    | PTF-CBA-N-1911 | 0.594           | <b>11.2</b> |           |
| Asphalt                       | 0-0.5                 | 0.25                                | 11/09/11    | PTF-CBA-N-1941 | 0.660           | <b>6.59</b> |           |
| Asphalt                       | 0-0.5                 | 1.5                                 | 01/04/12    | PTE-CBA-S-2024 | 0.330           | <b>3.14</b> |           |
| Asphalt                       | 0-0.5                 | 1.5                                 | 01/04/12    | PTF-CBA-N-2025 | 0.330           | <b>3.24</b> |           |
| <b>Building B/C Underpass</b> |                       |                                     |             |                |                 |             |           |
| Asphalt                       | 0-0.5                 | 1.5                                 | 01/04/12    | PTC-CBA-E-2026 | 0.330           | <b>2.74</b> |           |
| Asphalt                       | 0-0.5                 | 1.5                                 | 01/04/12    | PTB-CBA-W-2027 | 0.330           | <b>2.14</b> |           |
| <b>Building D Underpass</b>   |                       |                                     |             |                |                 |             |           |
| Asphalt                       | 0-0.5                 | 1.5                                 | 01/04/12    | PTD-CBA-W-2028 | 0.330           | <b>4.76</b> | J         |
| Asphalt                       | 0-0.5                 | 1.5                                 | 01/04/12    | PTD-CBA-E-2029 | 0.330           | <b>2.37</b> |           |

| Media                                      | Sample Area         | Lateral Distance from Façade (feet) | Sample Date | Sample ID      | Detection Limit | Total PCBs | Qualifier |
|--|---------------------|-------------------------------------|-------------|----------------|-----------------|------------|-----------|
| <b>Encapsulant Surface Wipe Pilot Test</b> |                     |                                     |             |                |                 |            |           |
| CIM 1061 <sup>1</sup>                      | 100 cm <sup>2</sup> | 0.1                                 | 03/23/12    | PTF-VWA-N-2402 | 0.5             | ND         |           |

Notes:

1. CIM 1061 is an elastomeric urethane coating.
2. PCB results are in parts per million (ppm) for bulk samples, and micrograms per 100cm<sup>2</sup> for wipes.
3. ND = Non-detect; result not detected above laboratory's minimum reporting limits as indicated.
4. J = Result is qualified is estimated based on data validation.







### OVERVIEW

**DESCRIPTION** CIM 1061 is a tough, abrasion, corrosion and chemical resistant, liquid applied coating specifically for use in water and wastewater applications including those which require ANSI/NSF 61 potable water certification. Typical applications for this two component elastomeric urethane coating include tank and reservoir liners, joint seals, tank repairs, and chemical containment.

**ADVANTAGES** CIM 1061 is one of the toughest coatings available, specifically formulated to meet the demanding needs of the water/wastewater industries:

- Ideal for coating concrete.
- ANSI/NSF 61 certified for potable water contact up to 180°F.
- Tested to ANSI 118.10-199, "Standard Specification for Load Bearing, Bonded, Waterproof Membrane for Thin-Set Ceramic Tile and Dimension Stone Installation".
- Forms a tough elastomeric coating able to bridge cracks and joints.
- Meets the most demanding health and safety requirements for drinking water, fish hatcheries, and food processing plants.
- Adheres to and bridges between common construction materials such as concrete, steel, glass, wood, and most coatings.
- Environmentally sound, complying with the toughest VOC standards.
- Can be repaired when damaged or when new tank penetrations are installed.
- Excellent wear and abrasion service.
- UV stable.
- Liquid, two-component urethane can be applied to complex tanks with multiple penetrations, and irregular shapes.

### SURFACE PREPARATION

**GENERAL:** Substrates must be **clean and dry** with no oils, grease or loose debris. CIM Bonding Agent is recommended on all non-porous substrates. Perform adhesion tests to confirm adequacy of surface preparation. See C.I.M. Industries' specific substrate Instruction Guide for specific guidelines.

**CONCRETE:** ICRF-CSP 4-6 concrete surface profile exposing aggregate. Concrete must exhibit minimum 3,000 psi compressive strength and be free of release agents and curing compounds. The substrate must be clean and dry (see CIM Instruction Guide IG-2), and free of contaminants.

**STEEL:** Minimum 3 mil profile.  
Immersion service – SSPC-SP10 / NACE No. 2 Near White Blast.  
Non-Immersion service – SSPC-SP6 / NACE No. 3 Commercial Blast.  
Use CIM Bonding Agent for greater adhesion.

**OTHER METALS:** SSPC-SP1 solvent clean and abrasive blast to roughen and degloss the surface. Use CIM Bonding Agent for greater adhesion.

**GLASS:** Thoroughly clean. CIM Bonding Agent must be used for increased adhesion. For immersion service roughen the surface.

**WOOD:** Substrate must be clean, dry and free of surface contamination.

**PREVIOUS COATINGS AND LININGS:** CIM 1061 may be applied over some existing coatings and linings and achieve acceptable performance. CIM Bonding Agent is recommended for greater adhesion. Finished system results vary due to a variety of project specific factors, including the service conditions to which the system is exposed. Therefore, C.I.M. Industries does not accept responsibility for determining the suitability of an existing coating or lining as a substrate for CIM products. Owner shall perform adhesion tests on any existing coating or lining to determine suitability.

**EARTH:** Use CIM Scrim.

**COLOR** CIM 1061 is initially shiny black, turning dull over 3 to 6 months when exposed to direct sunlight. For a colored or reflecting surface finish, see C.I.M. Industries' Instruction Guide, "Topcoats" (IG-7) for further instructions.

**SOLIDS BY VOLUME** 88% (1416 dry mils x sq. ft./gal.)

**VOC** 90 g/l (0.75 lb./gal.). CIM 1061 complies with the toughest VOC regulations.

# CIM 1061

## HIGH PERFORMANCE COATINGS AND LININGS

All information presented in this publication is believed to be accurate, but it is not to be construed as a guarantee of minimum performance. Test performance results are obtained in a controlled laboratory environment using procedures that may not represent actual operating environments.

### TYPICAL PROPERTIES

|                                  |  |  |  |
|----------------------------------|--|--|--|
| Abrasion Resistance - Wt. Loss   |  | Liner Weight                               |  |
| Taber Abraser CS-17 Wheel        |  | (60 mils wet film thickness)               |  |
| 1000 gr./1000 rev.               |  | 31 lbs./100 sq. ft.                        |  |
| ASTM D4060                       |  | Mix Ratio                                  |  |
| 1.2 mg. Loss                     |  | Weight                                     |  |
| Adhesion to concrete (dry)       |  | 6.2:1                                      |  |
| Elcometer                        |  | Volume                                     |  |
| 350 psi                          |  | Mullen Burst Strength,                     |  |
| Deflection Temperature           |  | ASTM D751, 50 mil                          |  |
| ASTM D648                        |  | 150 psi                                    |  |
| Density (Approx.)                |  | Permeability to Water Vapor                |  |
| Premix                           |  | ASTM E96 Method E, 100°F,                  |  |
| Activator                        |  | 100 mil sheet                              |  |
| Mixed & Cured                    |  | 0.03 perms                                 |  |
| Elastomeric Waterproofing        |  | Potable Water Service ANSI/NSF 61 to 180°F |  |
| ASTM C836                        |  | UL File Number - MH17445                   |  |
| ASTM C957                        |  | WQA Certified                              |  |
| Exceeds all criteria             |  | Recovery from 100% extension:              |  |
| Extension to Break,              |  | after 5 minutes                            |  |
| ASTM D412                        |  | 98%  |  |
| 300%                             |  | after 24 hours                             |  |
| Flooring and Shower Lining       |  | 100%                                       |  |
| UPC/IBC ANSI 118.10              |  | Service Temperature                        |  |
| Pass                             |  | -60°F to 220°F                             |  |
| Green Roof Membrane/Root Barrier |  | Softening Point, Ring & Ball               |  |
| FLL, 2002                        |  | ASTM D36                                   |  |
| Pass                             |  | >325°F                                     |  |
| Hardness, Shore A                |  | Tear Strength                              |  |
| ASTM D2240 @ 77°F                |  | ASTM D624 (Die C)                          |  |
| 65                               |  | 180 lbs./in.                               |  |
| Liner Performance                |  | Tensile Strength,                          |  |
| Crack Bridging                   |  | ASTM D412, 100 mil sheet                   |  |
| 10 cycles @ -15°F                |  | 1000 psi                                   |  |
| After heat aging                 |  | Weathering                                 |  |
| greater than 1/8"                |  | ASTM D822                                  |  |
| greater than 1/4"                |  | 5000 hrs.                                  |  |

### CHEMICAL RESISTANCE

CIM 1061 is resistant to a broad range of acids and alkalis. Consult C.I.M. Industries for additional information regarding chemical resistance after reviewing CIM 1061 Chemical Resistance Chart.

**THE INFORMATION PRESENTED IN THIS PUBLICATION IS SUBJECT TO CHANGE WITHOUT NOTICE.**

**CONTACT C.I.M. INDUSTRIES FOR CURRENT INFORMATION.**

[www.cimindustries.com](http://www.cimindustries.com)



# CIM 1061

## HIGH PERFORMANCE COATINGS AND LININGS

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### GENERAL APPLICATION INFORMATION

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#### FOR PROFESSIONAL USE ONLY.

- PRECAUTIONS** Avoid contamination with water or moisture. Keep all pails and jugs tightly closed until ready for use. All equipment, air supplies, and application substrates must be **ABSOLUTELY DRY**. Do not apply in wet weather or when rain is imminent or when the CIM 1061 or the substrate may become wet within 4 hours after coating. Use caution when applying CIM 1061 in confined spaces. See C.I.M. Industries' Instruction Guide, "Applying CIM Within Confined Spaces" (IG-9).
- TEMPERATURE** Surface should be at least 50°F (10°C) and must be 5°F (3°C) above the dew point. **DO NOT APPLY WHEN THE SUBSTRATE OR AMBIENT TEMPERATURE IS RISING OR COATING IS IN DIRECT SUNLIGHT.** CIM 1061 should be at least 60°F (15°C) when mixed and applied. CIM 1061 may be preheated to facilitate application at low temperatures, but working time will be reduced. See C.I.M. Industries' Instruction Guide "Applying CIM Coatings in Cold Weather" (IG-11).
- EQUIPMENT** Spray equipment requires large diameter hose and air supplied mastic gun or plural component spray equipment. See "Spray Application of CIM" (IG-12) or contact C.I.M. Industries for specific recommendations. Roller, squeegee, and trowel may also be used.
- POT LIFE** About 30 minutes. Working time depends on temperature and method of application. Working time for spray applications will be significantly shorter.
- PRIMING** Porous substrates such as wood and concrete may be primed with CIM 61BG Epoxy Primer to minimize outgassing. The maximum recoat window for CIM 61BG Epoxy Primer is 48 hours. See CIM 61BG Epoxy Primer Technical Data Sheet for additional information. Perform adhesion tests to confirm adequacy of adhesion to primer.
- MIXING** **DO NOT THIN. DO NOT HAND MIX.** Begin mixing each pail (4.4 gal.) of CIM 1061 Premix using a power mixer (e.g. ½" drill and an eight inch mud mixer). Do not draw air into the mix. While mixing, slowly add one jug (0.6 gal.) of CIM 1061 Activator to the pail and mix thoroughly for **3 FULL MINUTES**. The proportions are premeasured; **DO NOT ESTIMATE**. Mixing Jigs and Timers from C.I.M. Industries help eliminate mixing errors and increase productivity on the job. See C.I.M. Industries' Instruction Guide, "Mixing CIM Premix and Activator" (IG-8).
- APPLICATION** Apply CIM 1061 directly to a clean and dry substrate. Vertical surfaces will require multiple coats. See C.I.M. Industries' specific substrate Instruction Guide for additional guidelines.
- RECOATING** CIM 1061 may be recoated in 1 hour and must be recoated soon after the coating no longer comes off on polyethylene (typically within 4 hours of mixing). If the coating has cured longer than this time, the surface must be severely abraded using surface grinder or other mechanical means, and be free of dust and debris. Use CIM Bonding Agent for better adhesion. For immersion conditions, all coats shall be applied within four hours of each other, except at joint lines.
- RECOMMENDED MINIMUM THICKNESS** Recommended minimum thickness of the coating is 60 wet mils. Additional thickness may be specified, but extended time is required to insure proper solvent release prior to placing the liner in service. Contact C.I.M. Industries for detailed cure time information. Refer to CIM 1061 Coverage Chart for coverage rates.
- CURING TIME** Before placing the coating into potable water service or similar applications, allow sufficient time for solvents to release from the coating. The required time for a 60 wet mil coating is two weeks at 60°F (15°C) and varies depending upon coating thickness and substrate temperature. For many other applications, CIM 1061 may be placed into service in 24 hours. Contact C.I.M. Industries for specific recommendations.
- DISINFECTION** CIM 1061 coating must be washed, rinsed, and disinfected in accordance with C.I.M. Industries Instruction Guide "Decontamination or Washing Procedures for Potable Water Tank and Fish Pond Service" (IG-10).
- CLEAN-UP** Use mineral spirits for clean-up of uncured material. Spray equipment must be flushed regularly during application to prevent material from setting up in the hose and pump. Cured material is very difficult to remove. Soaking in solvent will soften the material and may assist in its removal.

**CONTACT C.I.M. INDUSTRIES FOR SPECIFIC RECOMMENDATIONS AND INSTRUCTION GUIDES.**

# CIM 1061

## HIGH PERFORMANCE COATINGS AND LININGS

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### SHIPPING, STORAGE AND SAFETY DATA

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**WARNING** Flammable. Use only in well ventilated areas. Do not store or use near open flame, sparks or hot surfaces. Keep tightly closed. Avoid contact with moisture or water. Keep out of reach of children.

**SAFETY INFORMATION** This product contains petroleum asphalt, petroleum distillates, amine compounds and/or other chemical ingredients. Adequate health and safety precautions should be observed during the storage, handling, application and curing. Refer to C.I.M. Industries' Material Safety Data Sheets for further details regarding the safe use of this product.

**PACKAGING** CIM 1061 is available in mixed units of 0.8 gallons and 5 gallons. Each unit consists of a container of premix and a smaller container of activator. Quantities have been premeasured to provide the proper mixing ratio, leaving sufficient room in the premix container to facilitate adequate mixing. **Do not estimate proportions.**

| SHIPPING          | Premix                      | Activator                        |
|-------------------|-----------------------------|----------------------------------|
| <b>Weights</b>    |                             |                                  |
| 0.8 gallon kits   | 6.6 lb/can (26 lb/box of 4) | 1 lb/bottle (13 lb/carton of 12) |
| 5.0 gallon units  | 40 lb/pail                  | 6.0 lb/jug (36 lb/case of 6)     |
| <b>Properties</b> |                             |                                  |
| Flash Point       | 101°F                       | >400°F                           |
| Shipping Name     | Coating Solution            | Not Regulated                    |
| DOT Class         | Class 3, UN1139, PG III     | Not Regulated                    |
| <b>STORAGE</b>    |                             |                                  |
| Temperature       | 20°F to 110°F               | 70°F to 95°F                     |
| Shelf Life        | 2 years                     | 6 months                         |
| NFPA              | Class II                    | Class III B                      |

#### WARRANTY & LIMITATION OF SELLER'S LIABILITY

C.I.M. Industries Inc. (C.I.M.) warrants that for a period of five (5) years from the date of shipment to the initial purchaser the products, when mixed in proper ratios for the proper length of time, (a) will not become brittle or crack and (b) will provide a water barrier. Due to application variables beyond C.I.M.'s control which may affect results, C.I.M. makes no warranty of any kind, expressed or implied, including that of merchantability, other than that the products conform to C.I.M.'s current quality control standards at time of manufacture. If breach of warranty is established, the buyer's exclusive remedy shall be repayment of the purchase price of the non-conforming CIM membrane product or, at C.I.M.'s option, resupply of conforming product to replace the non-conforming product. The buyer expressly waives any claim to additional damages, including consequential damages.

THE INFORMATION PRESENTED IN THIS PUBLICATION IS SUBJECT TO CHANGE WITHOUT NOTICE.

CONTACT C.I.M. INDUSTRIES FOR CURRENT INFORMATION.

FOR PROFESSIONAL USE ONLY.

[www.cimindustries.com](http://www.cimindustries.com)

November 3, 2011

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**RE: Analytical Results Case Narrative  
Analytics # 71363  
Peabody Terrace Project No: 210980**

Dear Ms. Wallace;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed for Polychlorinated Biphenyls (PCBs) by EPA Method 8082.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

- Case Narrative/Non-Conformance Summary
- Sample Log Sheet - Cover Page
- PCB Form 1 Data Sheet for Samples and Blanks
- Chromatograms
- PCB Form 10 Confirmation Results
- PCB Form 3 MS/MSD (LCS) Recoveries
- Chain of Custody (COC) Forms



## QC NON-CONFORMANCE SUMMARY

**Sample Receipt:**

No exceptions.

**PCBs by EPA Method 8082:**

No results were reported below the quantitation limit.

Sample 71363-1 require dilution due concentrations of PCBs that exceeded the calibration range of the instrument. Samples 71363-2 and 71363-3 are reported at elevated quantitation limits due to sample matrix. A smaller aliquot of sample was extracted due to the asphalt matrix.

If you have any questions on these results, please do not hesitate to contact me.

Sincerely,  
ANALYTICS Environmental Laboratory, LLC



Stephen L. Knollmeyer  
Laboratory Director

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**Report Number: 71363**

**Revision: Rev. 0**

**Re: Peabody Terrace (Project No: 210980)**

Enclosed are the results of the analyses on your sample(s). Samples were received on 27 October 2011 and analyzed for the tests listed. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

| <u>Lab Number</u> | <u>Sample Date</u> | <u>Station Location</u> | <u>Analysis</u>             | <u>Comments</u> |
|-------------------|--------------------|-------------------------|-----------------------------|-----------------|
| 71363-1           | 10/27/11           | PTF-CBA-N-1911          | EPA 8082 (PCBs only)        |                 |
| 71363-2           | 10/27/11           | PTF-CBA-N-1912          | EPA 8082 (PCBs only)        |                 |
| 71363-3           | 10/27/11           | PTD-CBA-N-1913          | Electronic Data Deliverable |                 |
|                   | 10/27/11           | PTD-CBA-N-1913          | EPA 8082 (PCBs only)        |                 |

**Sample Receipt Exceptions:** None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, Virginia, Maryland, and North Carolina, and is accredited by the Department of Defense (DOD) ELAP program. A list of actual certified parameters is available upon request.

If you have any questions on these results, please do not hesitate to contact us.

Authorized signature

  
Stephen L. Knollmeyer Lab. Director

Date

11/3/2011

**This report shall not be reproduced, except in full, without the written consent of Analytics Environmental Laboratory, LLC.**

### MassDEP Analytical Protocol Certification Form

Laboratory Name: Analytics Environmental Laboratory, LLC

Project #: 71363

Project Location: Peabody Terrace

RTN:

**This Form provides certifications for the following data set. Laboratory Sample ID Number(s):**

71363-1, 71363-2, 71363-3

Matrices: ☐ Groundwater/Surface Water ☒ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other

**CAM Protocol** (check all that apply below):

|   |  |   |  |   |  |
|---|--|---|--|---|--|
| 8260 VOC<br>CAM II A <input type="checkbox"/>     | 7470/7471 Hg<br>CAM III B <input type="checkbox"/> | MassDEP VPH<br>CAM IV A <input type="checkbox"/>        | 8081 Pesticides<br>CAM V B <input type="checkbox"/>            | 7196 Hex Cr<br>CAM VI B <input type="checkbox"/>        | MassDEP APH<br>CAM IX A <input type="checkbox"/> |
| 8270 SVOC<br>CAM II B <input type="checkbox"/>    | 7010 Metals<br>CAM III C <input type="checkbox"/>  | MassDEP EPH<br>CAM IV B <input type="checkbox"/>        | 8151 Herbicides<br>CAM V C <input type="checkbox"/>            | 8330 Explosives<br>CAM VIII A <input type="checkbox"/>  | TO-15 VOC<br>CAM IX B <input type="checkbox"/>   |
| 6010 Metals<br>CAM III A <input type="checkbox"/> | 6020 Metals<br>CAM III D <input type="checkbox"/>  | 8082 PCB<br>CAM V A <input checked="" type="checkbox"/> | 9014 Total<br>Cyanide/PAC<br>CAM VI A <input type="checkbox"/> | 6860 Perchlorate<br>CAM VIII B <input type="checkbox"/> |  |

**Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status**

|          |  |  |
|----------|--|--|
| <b>A</b> | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |
| <b>B</b> | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |
| <b>C</b> | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |
| <b>D</b> | Does the laboratory report comply with all reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |
| <b>E</b> | a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to individual method(s) for a list of significant modifications).<br>b. APH and TO-15 Methods only: Was the complete analyte list reported for each method? | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> Yes <input type="checkbox"/> No |
| <b>F</b> | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |

**Responses to Questions G, H and I below are required for "Presumptive Certainty" status**

|          |   |  |
|----------|---|--|
| <b>G</b> | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup> |
|----------|---|--|

**Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.**

|          |  |  |
|----------|--|--|
| <b>H</b> | Were ALL QC performance standards specified in the CAM protocol(s) achieved?                   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup> |
| <b>I</b> | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup> |

<sup>1</sup> All negative responses must be addressed in an attached laboratory narrative.

**I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.**

Signature: 

Position: Laboratory Director

Printed Name: Stephen L. Knollmeyer

Date: November 03, 2011



### Surrogate Compound Limits

|  | Matrix:<br>Units: | Aqueous<br>% Recovery | Solid<br>% Recovery | Method                      |
|--|-------------------|-----------------------|---------------------|-----------------------------|
| <b>Volatile Organic Compounds - Drinking Water</b> |                   |                       |                     |                             |
| 1,4-Difluorobenzene                                |                   | 70-130                |                     | EPA 524.2                   |
| Bromofluorobenzene                                 |                   | 70-130                |                     |                             |
| 1,2-Dichlorobenzene-d4                             |                   | 70-130                |                     |                             |
| <b>Volatile Organic Compounds</b>                  |                   |                       |                     |                             |
| 1,2-Dichloroethane-d4                              |                   | 70-120                | 70-120              | EPA 624/8260B               |
| Toluene-d8   |                   | 85-120                | 85-120              |                             |
| Bromofluorobenzene                                 |                   | 75-120                | 75-120              |                             |
| <b>Semi-Volatile Organic Compounds</b>             |                   |                       |                     |                             |
| 2-Fluorephenol                                     |                   | 20-110                | 35-105              | EPA 625/8270C               |
| d5-Phenol  |                   | 15-110                | 40-100              |                             |
| d5-nitrobenzene                                    |                   | 40-110                | 35-100              |                             |
| 2-Fluorobiphenyl                                   |                   | 50-110                | 45-105              |                             |
| 2,4,6-Tribromophenol                               |                   | 40-110                | 40-125              |                             |
| d14-p-terphenyl                                    |                   | 50-130                | 30-125              |                             |
| <b>PAH's by SIM</b>                                |                   |                       |                     |                             |
| d5-nitrobenzene                                    |                   | 21-110                | 35-110              | EPA 8270C                   |
| 2-Fluorobiphenyl                                   |                   | 36-121                | 45-105              |                             |
| d14-p-terphenyl                                    |                   | 33-141                | 30-125              |                             |
| <b>Pesticides and PCBs</b>                         |                   |                       |                     |                             |
| 2,4,5,6-Tetrachloro-m-xylene (TCX)                 |                   | 46-122                | 40-130              | EPA 608/8082                |
| Decachlorobiphenyl (DCB)                           |                   | 40-135                | 40-130              |                             |
| <b>Herbicides</b>                                  |                   |                       |                     |                             |
| Dichloroacetic acid (DCAA)                         |                   | 30-150                | 30-150              |                             |
| <b>Gasoline Range Organics/TPH Gasoline</b>        |                   |                       |                     |                             |
| Trifluorotoluene TFT (FID)                         |                   | 60-140                | 60-140              | MEDEP 4217/EPA 8015         |
| Bromofluorobenzene (BFB) (FID)                     |                   | 60-140                | 60-140              |                             |
| Trifluorotoluene TFT (PID)                         |                   | 60-140                | 60-140              |                             |
| Bromofluorobenzene (BFB) (PID)                     |                   | 60-140                | 60-140              |                             |
| <b>Diesel Range Organics/TPH Diesel</b>            |                   |                       |                     |                             |
| m-terphenyl  |                   | 60-140                | 60-140              | MEDEP 4125/EPA 8015/CT ETPH |
| <b>Volatile Petroleum Hydrocarbons</b>             |                   |                       |                     |                             |
| 2,5-Dibromotoluene (PID)                           |                   | 70-130                | 70-130              | MADEP VPH May 2004 Rev1.1   |
| 2,5-Dibromotoluene (FID)                           |                   | 70-130                | 70-130              |                             |
| <b>Extracatable Petroleum Hydrocarbons</b>         |                   |                       |                     |                             |
| 1-chloro-octadecane (aliphatic)                    |                   | 40-140                | 40-140              | MADEP EPH May 2004 Rev1.1   |
| o-Terphenyl (aromatic)                             |                   | 40-140                | 40-140              |                             |
| 2-Fluorobiphenyl (Fractionation)                   |                   | 40-140                | 40-140              |                             |
| 2-Bromonaphthalene (fractionation)                 |                   | 40-140                | 40-140              |                             |

## PCB DATA SUMMARIES

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

November 2, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** Lab QC

**Lab Sample ID:** B102711PSOX RR  
**Matrix:** Soil  
**Percent Solid:** 100  
**Dilution Factor:** 1.0  
**Collection Date:**  
**Lab Receipt Date:**  
**Extraction Date:** 10/27/11  
**Analysis Date:** 11/01/11

**PCB ANALYTICAL RESULTS**

| COMPOUND   | Quantitation<br>Limit µg/kg | Results<br>µg/kg |
|--|-----------------------------|------------------|
| PCB-1016   | 33                          | U                |
| PCB-1221   | 33                          | U                |
| PCB-1232   | 33                          | U                |
| PCB-1242   | 33                          | U                |
| PCB-1248   | 33                          | U                |
| PCB-1254   | 33                          | U                |
| PCB-1260   | 33                          | U                |
| PCB-1262   | 33                          | U                |
| PCB-1268   | 33                          | U                |
| <b><u>Surrogate Standard Recovery</u></b>                                |                             |                  |
| 2,4,5,6-Tetrachloro-m-xylene   | 109 %                       |                  |
| Decachlorobiphenyl   | 88 %                        |                  |
| U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank |                             |                  |

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

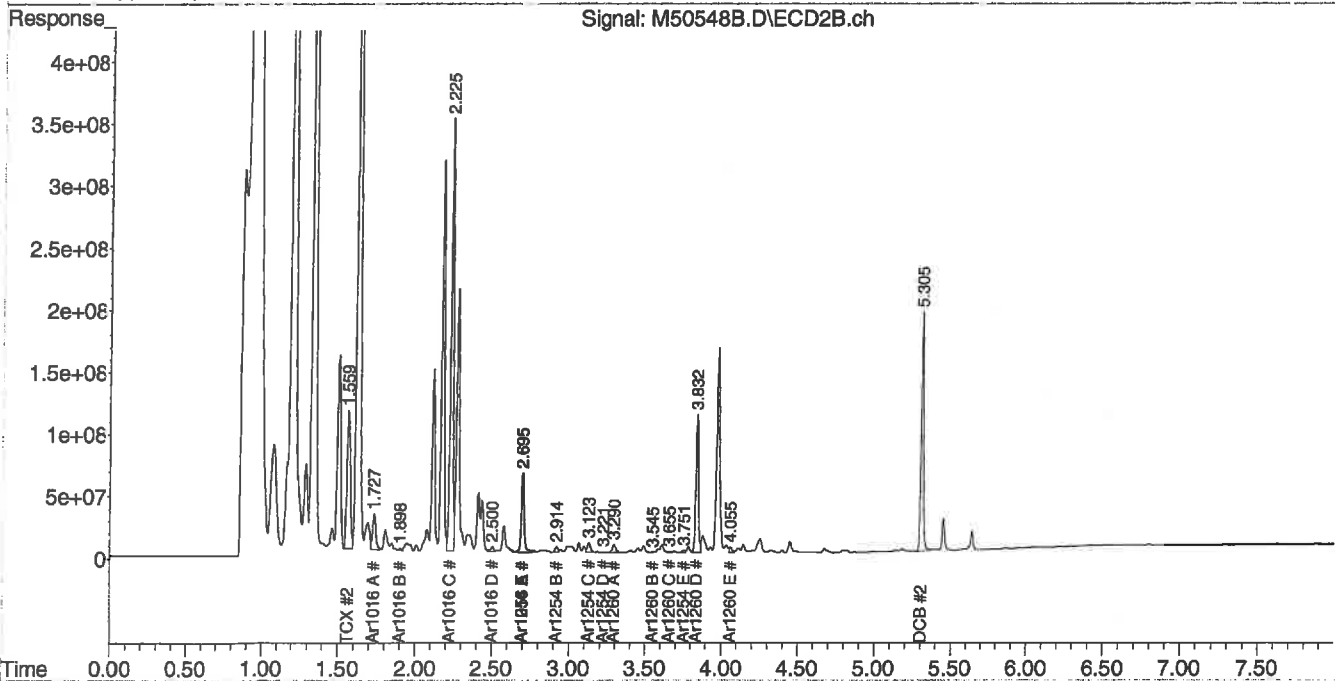
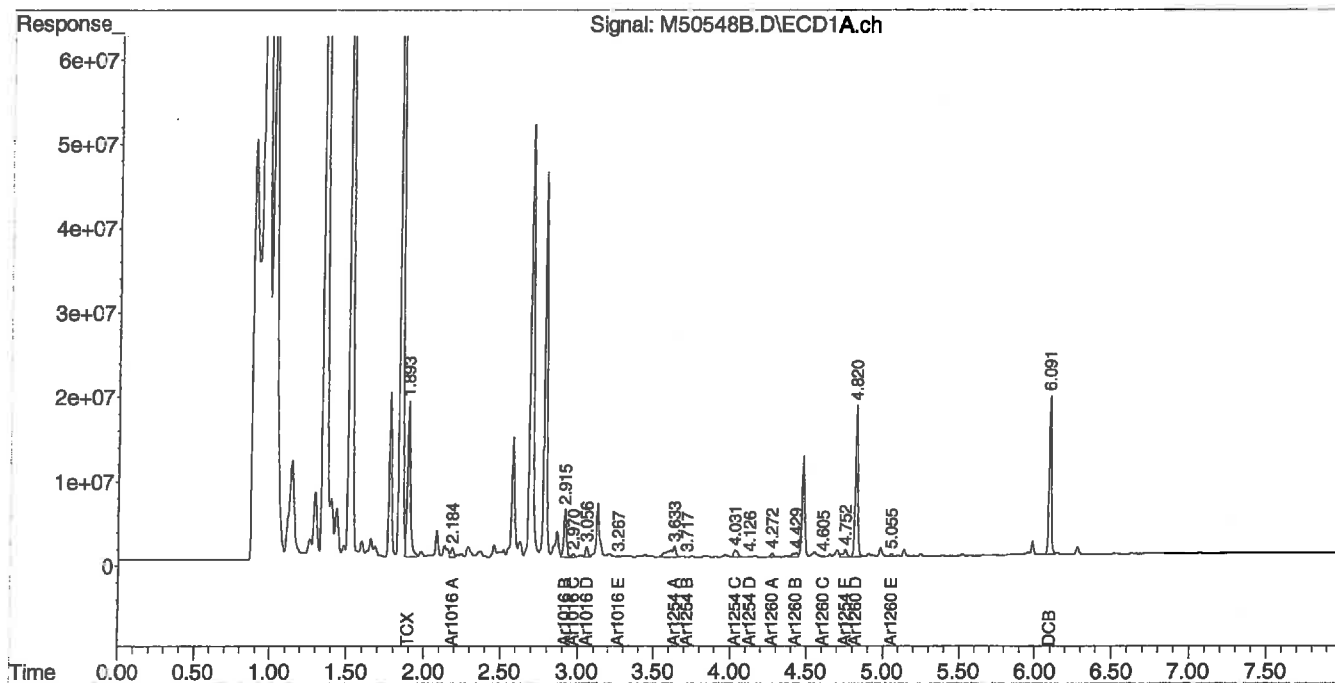
COMMENTS: Results are expressed on a dry weight basis.



Data Path : C:\msdchem\1\DATA\110111-M\  
 Data File : M50548B.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 1 Nov 2011 1:38 pm  
 Operator : JK  
 Sample : B102711PSOX,RR,,A/C  
 Misc : SOIL  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Nov 02 10:14:38 2011  
 Quant Method : C:\msdchem\1\METHODS\PCB100411.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Fri Oct 21 11:26:43 2011  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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November 2, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTF-CBA-N-1911

**Lab Sample ID:** 71363-1  
**Matrix:** Solid  
**Percent Solid:** 91  
**Dilution Factor:** 18  
**Collection Date:** 10/27/11  
**Lab Receipt Date:** 10/27/11  
**Extraction Date:** 10/27/11  
**Analysis Date:** 11/01/11

**PCB ANALYTICAL RESULTS**

| COMPOUND   | Quantitation<br>Limit $\mu\text{g/kg}$ | Results<br>$\mu\text{g/kg}$ |
|--|--|-----------------------------|
| PCB-1016   | 594                                    | U                           |
| PCB-1221   | 594                                    | U                           |
| PCB-1232   | 594                                    | U                           |
| PCB-1242   | 594                                    | U                           |
| PCB-1248   | 594                                    | U                           |
| PCB-1254   | 594                                    | 11200                       |
| PCB-1260   | 594                                    | U                           |
| PCB-1262   | 594                                    | U                           |
| PCB-1268   | 594                                    | U                           |
| <b>Surrogate Standard Recovery</b>                                       |  |                             |
| 2,4,5,6-Tetrachloro-m-xylene   | 79 %                                   |                             |
| Decachlorobiphenyl   | 73 %                                   |                             |
| U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank |  |                             |

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

**COMMENTS:** Results are expressed on a dry weight basis.

PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

|                                   |                          |
|-----------------------------------|--------------------------|
| Instrument ID: M                  | SDG: 71363               |
| GC Column #1: STX-CLPesticides I  | Sample: 71363-1,1:2,,A/C |
| Column ID: 0.25 mm                | Data File: M50556.D      |
| GC Column #2: STX-CLPesticides II | Dilution Factor: 17.8    |
| Column ID: 0.25 mm                |                          |

| Column #1 |                       | Column #2             |       |
|-----------|-----------------------|-----------------------|-------|
| COMPOUND  | SAMPLE RESULT (ug/kg) | SAMPLE RESULT (ug/kg) | RPD # |
| PCB 1254  | 11251                 | 9246                  | 19.6  |

# Column to be used to flag RPD values greater than QC limit of 40%

\* Values outside QC limits

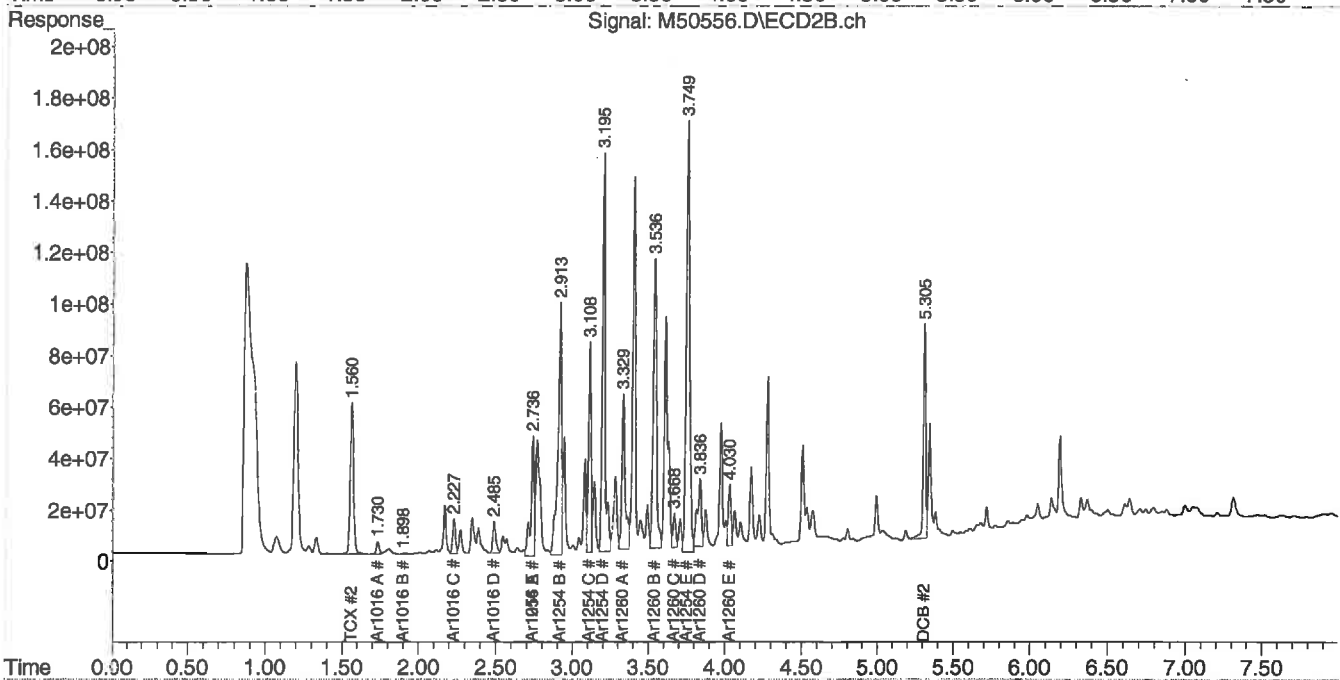
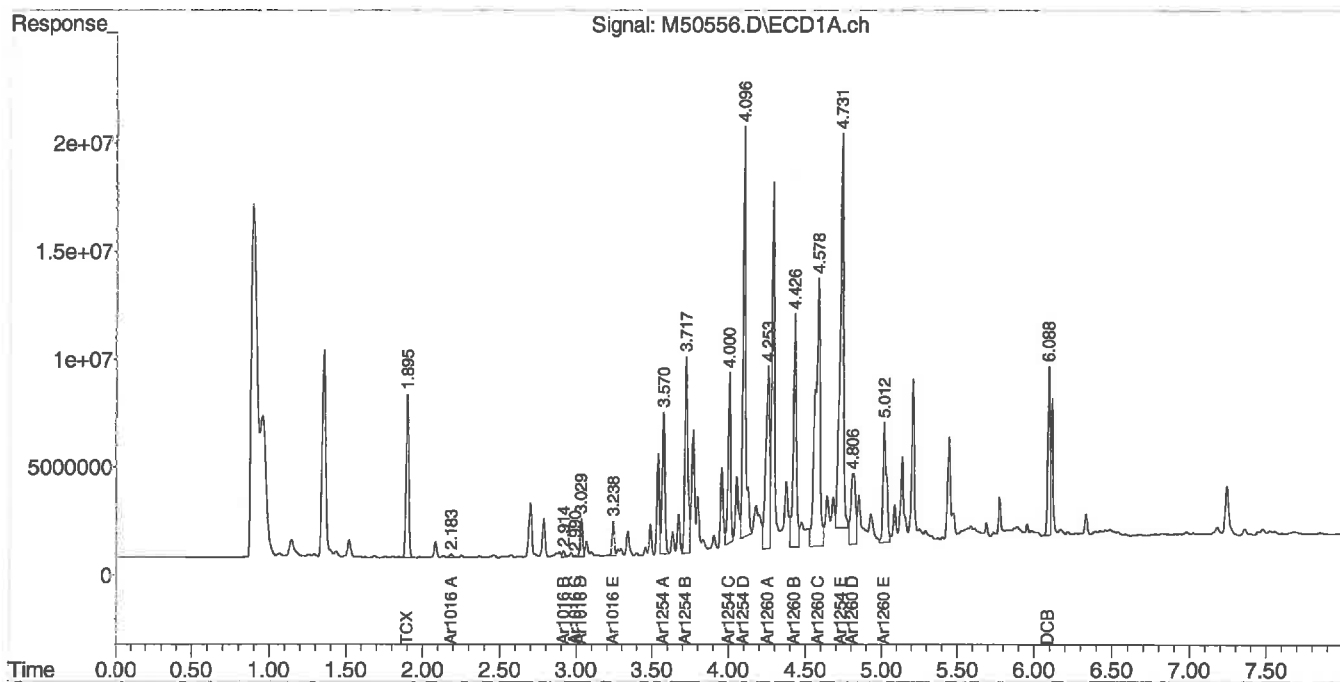
Comments: \_\_\_\_\_



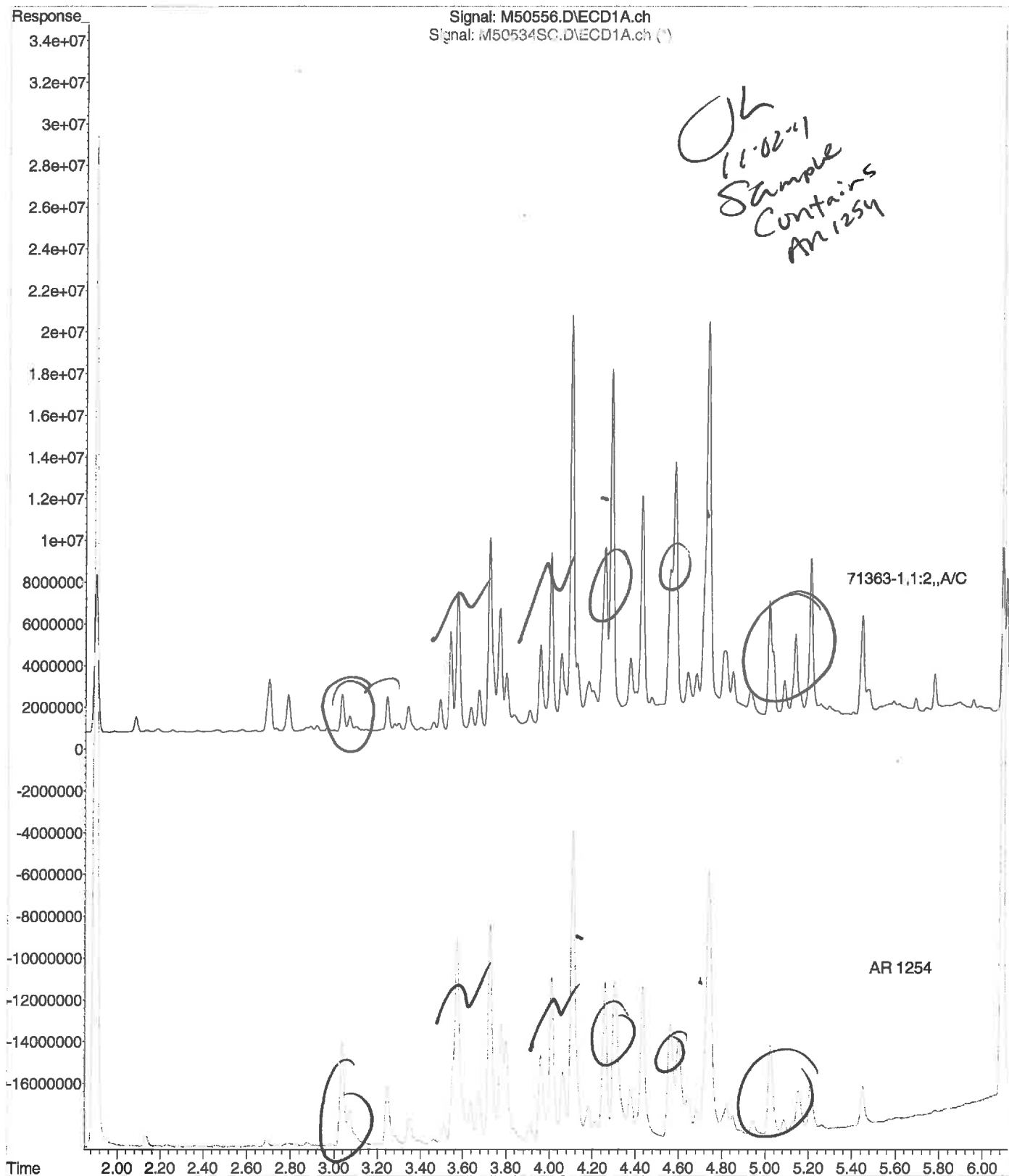
Data Path : C:\msdchem\1\DATA\110111-M\  
Data File : M50556.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 1 Nov 2011 2:59 pm  
Operator : JK  
Sample : 71363-1,1:2,,A/C  
Misc : SOIL  
ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Nov 02 10:29:55 2011  
Quant Method : C:\msdchem\1\METHODS\PCB100411.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Fri Oct 21 11:27:04 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\110111-M\M50556.D  
Operator : JK  
Acquired : 1 Nov 2011 2:59 pm using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 71363-1,1:2,,A/C  
Misc Info : SOIL  
Vial Number: 14



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November 2, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTF-CBA-N-1912

**Lab Sample ID:** 71363-2 RR  
**Matrix:** Solid  
**Percent Solid:** 98  
**Dilution Factor:** 10  
**Collection Date:** 10/27/11  
**Lab Receipt Date:** 10/27/11  
**Extraction Date:** 10/27/11  
**Analysis Date:** 11/01/11

**PCB ANALYTICAL RESULTS**

| COMPOUND   | Quantitation<br>Limit $\mu\text{g/kg}$ | Results<br>$\mu\text{g/kg}$ |
|--|--|-----------------------------|
| PCB-1016   | 330                                    | U                           |
| PCB-1221   | 330                                    | U                           |
| PCB-1232   | 330                                    | U                           |
| PCB-1242   | 330                                    | U                           |
| PCB-1248   | 330                                    | U                           |
| PCB-1254   | 330                                    | 411                         |
| PCB-1260   | 330                                    | U                           |
| PCB-1262   | 330                                    | U                           |
| PCB-1268   | 330                                    | U                           |
| <b>Surrogate Standard Recovery</b>                                       |  |                             |
| 2,4,5,6-Tetrachloro-m-xylene   | 75 %                                   |                             |
| Decachlorobiphenyl   | 82 %                                   |                             |
| U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank |  |                             |

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

**COMMENTS:** Results are expressed on a dry weight basis.

PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

|                                   |                         |
|-----------------------------------|-------------------------|
| Instrument ID: M                  | SDG: 71363              |
| GC Column #1: STX-CLPesticides I  | Sample: 71363-2,RR,,A/C |
| Column ID: 0.25 mm                | Data File: M50557.D     |
| GC Column #2: STX-CLPesticides II | Dilution Factor: 9.5    |
| Column ID: 0.25 mm                |                         |

|          | Column #1             | Column #2             |      |   |
|----------|-----------------------|-----------------------|------|---|
| COMPOUND | SAMPLE RESULT (ug/kg) | SAMPLE RESULT (ug/kg) | RPD  | # |
| PCB 1254 | 411                   | 360                   | 13.3 |   |

# Column to be used to flag RPD values greater than QC limit of 40%

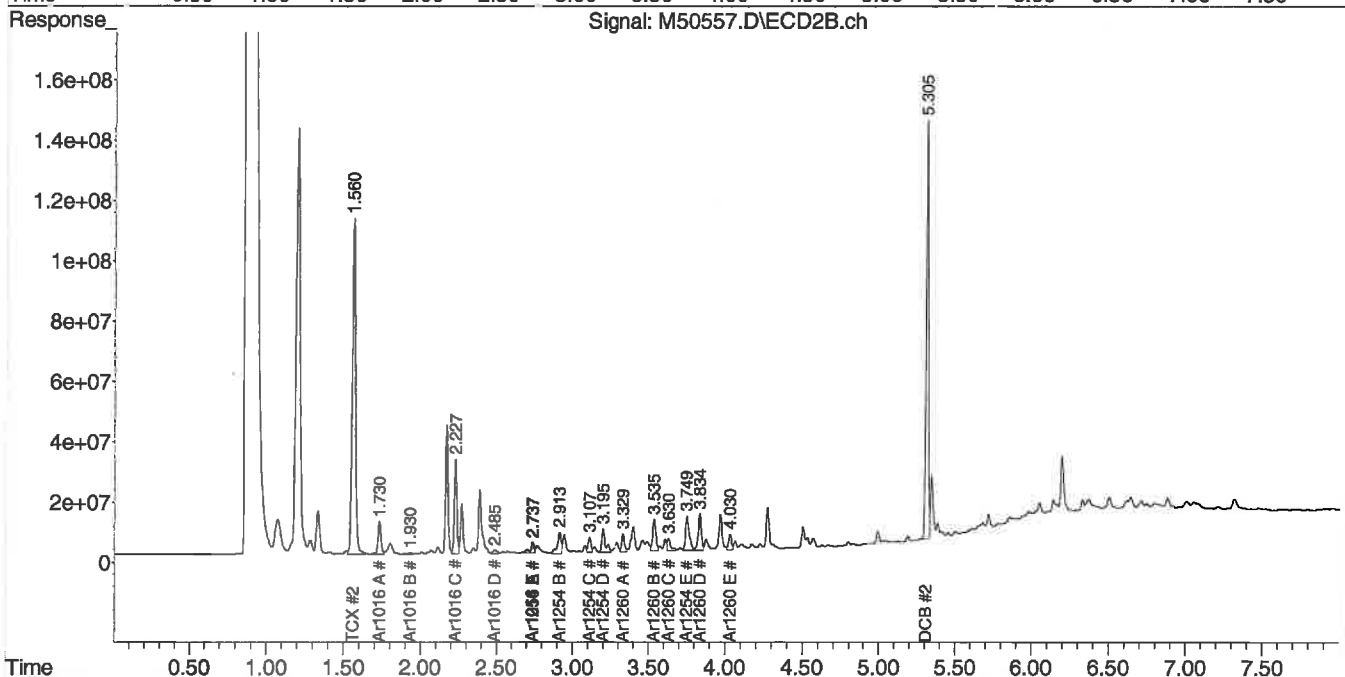
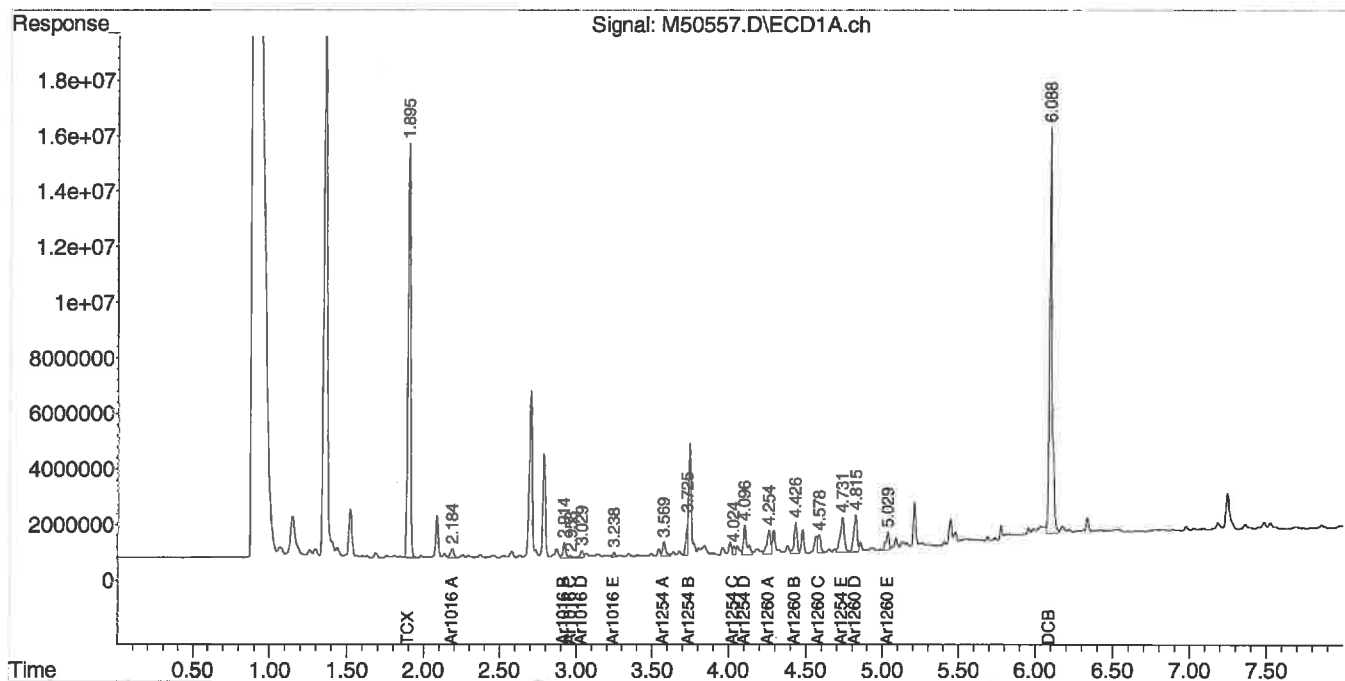
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\110111-M\  
 Data File : M50557.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 1 Nov 2011 3:09 pm  
 Operator : JK  
 Sample : 71363-2,RR,,A/C  
 Misc : SOIL  
 ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Nov 02 10:33:22 2011  
 Quant Method : C:\msdchem\1\METHODS\PCB100411.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Fri Oct 21 11:27:04 2011  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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November 2, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBA-N-1913

**Lab Sample ID:** 71363-3 RR  
**Matrix:** Solid  
**Percent Solid:** 95  
**Dilution Factor:** 9  
**Collection Date:** 10/27/11  
**Lab Receipt Date:** 10/27/11  
**Extraction Date:** 10/27/11  
**Analysis Date:** 11/01/11

**PCB ANALYTICAL RESULTS**

| COMPOUND   | Quantitation<br>Limit $\mu\text{g/kg}$ | Results<br>$\mu\text{g/kg}$ |
|--|--|-----------------------------|
| PCB-1016   | 297                                    | U                           |
| PCB-1221   | 297                                    | U                           |
| PCB-1232   | 297                                    | U                           |
| PCB-1242   | 297                                    | U                           |
| PCB-1248   | 297                                    | U                           |
| PCB-1254   | 297                                    | <b>1900</b>                 |
| PCB-1260   | 297                                    | U                           |
| PCB-1262   | 297                                    | U                           |
| PCB-1268   | 297                                    | U                           |
| <b><u>Surrogate Standard Recovery</u></b>                                |  |                             |
| 2,4,5,6-Tetrachloro-m-xylene   | 74 %                                   |                             |
| Decachlorobiphenyl   | 59 %                                   |                             |
| U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank |  |                             |

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

**COMMENTS:** Results are expressed on a dry weight basis.



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

|                                   |                         |
|-----------------------------------|-------------------------|
| Instrument ID: M                  | SDG: 71363              |
| GC Column #1: STX-CLPesticides I  | Sample: 71363-3,RR,,A/C |
| Column ID: 0.25 mm                | Data File: M50558.D     |
| GC Column #2: STX-CLPesticides II | Dilution Factor: 9.0    |
| Column ID: 0.25 mm                |                         |

| Column #1 |                       | Column #2             |       |
|-----------|-----------------------|-----------------------|-------|
| COMPOUND  | SAMPLE RESULT (ug/kg) | SAMPLE RESULT (ug/kg) | RPD # |
| PCB 1254  | 1896                  | 1533                  | 21.2  |

# Column to be used to flag RPD values greater than QC limit of 40%

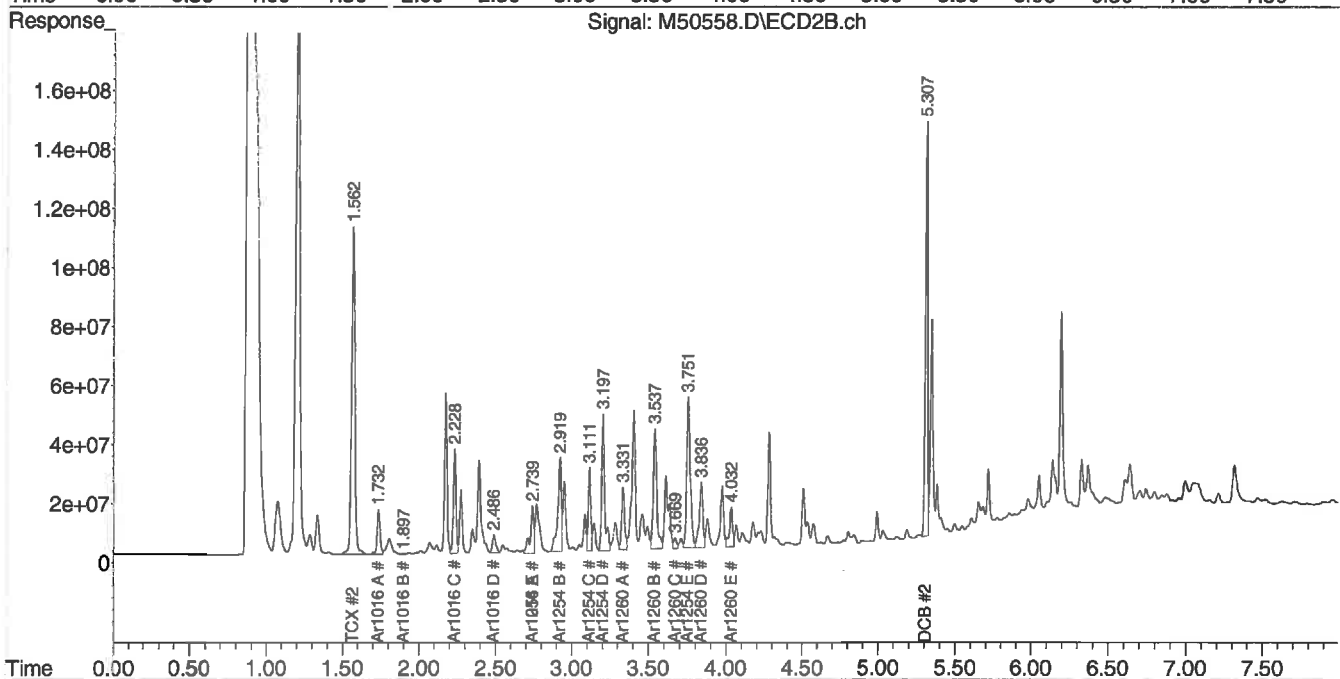
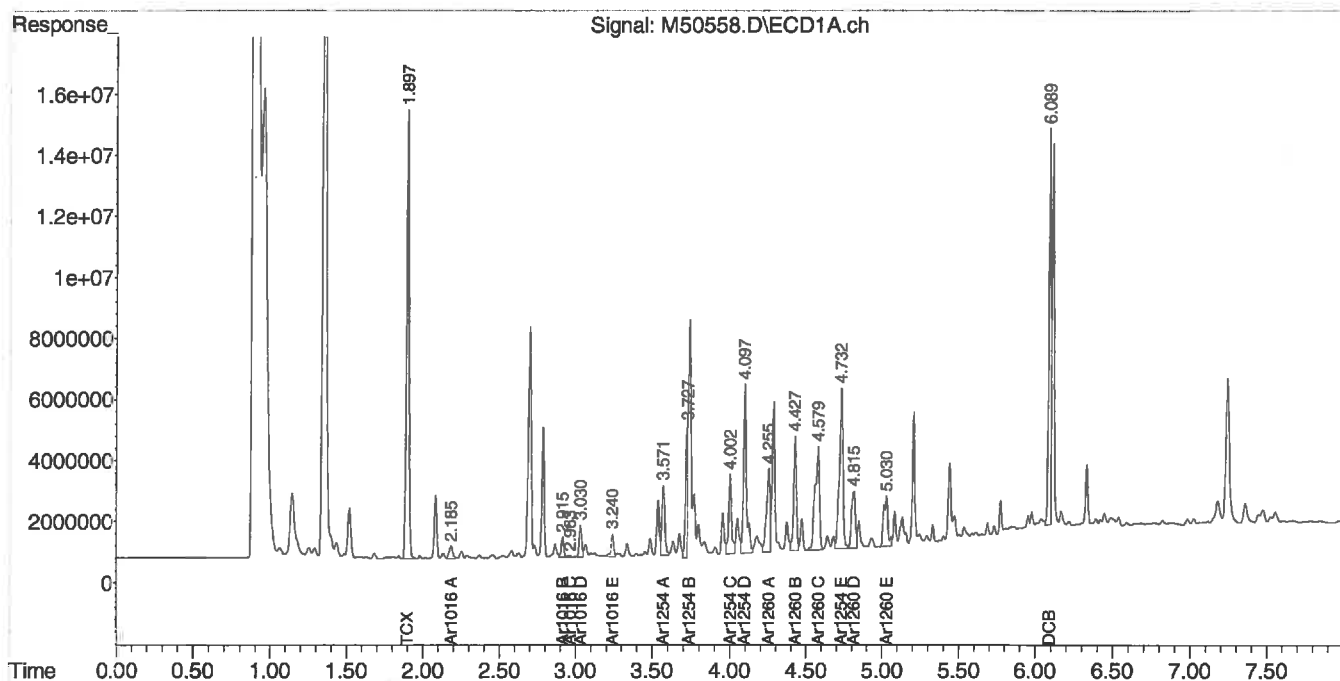
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\110111-M\  
 Data File : M50558.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 1 Nov 2011 3:19 pm  
 Operator : JK  
 Sample : 71363-3,RR,,A/C  
 Misc : SOIL  
 ALS Vial : 16 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Nov 02 10:35:27 2011  
 Quant Method : C:\msdchem\1\METHODS\PCB100411.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Fri Oct 21 11:27:04 2011  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



PCB  
QC FORMS



PCB SOIL  
LABORATORY CONTROL SAMPLE/DUPLICATE  
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 71363

Non-spiked sample: B102711PSOX,RR,,A/C

Spike: L102711PSOX,RR,,A/C

Spike duplicate: LD102711PSOX,RR,,A/C

| COMPOUND    | LCS SPIKE<br>ADDED (ug/kg) | LCSD SPIKE<br>ADDED (ug/kg) | LOWER<br>LIMIT | UPPER<br>LIMIT | RPD<br>LIMIT | NON-SPIKE<br>RESULT (ug/kg) | SPIKE<br>RESULT (ug/kg) | SPIKE<br>% REC | SPIKE<br># | SPIKE DUP<br>RESULT (ug/kg) | SPIKE DUP<br>% REC | SPIKE DUP<br># | RPD<br># |
|-------------|----------------------------|-----------------------------|----------------|----------------|--------------|-----------------------------|-------------------------|----------------|------------|-----------------------------|--------------------|----------------|----------|
| PCB 1016    | 200                        | 200                         | 65             | 140            | 30           | 0                           | 211                     | 105            |            | 204                         | 102                |                | 3.0      |
| PCB 1260    | 200                        | 200                         | 60             | 130            | 30           | 0                           | 209                     | 104            |            | 211                         | 105                |                | 1.1      |
| PCB 1016 #2 | 200                        | 200                         | 65             | 140            | 30           | 0                           | 205                     | 103            |            | 213                         | 106                |                | 3.6      |
| PCB 1260 #2 | 200                        | 200                         | 60             | 130            | 30           | 0                           | 184                     | 92             |            | 185                         | 93                 |                | 0.6      |

# Column to be used to flag recovery and RPD values outside of QC limits

\* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: \_\_\_\_\_  
\_\_\_\_\_

## CHAIN OF CUSTODIES



[illegible]

**ANALYTICS SAMPLE RECEIPT CHECKLIST**

AEL LAB#: 71363  
 CLIENT: Woodward & Curran  
 PROJECT: Peabody Terrain

COOLER NUMBER: 101  
 NUMBER OF COOLERS: 10/27/11  
 DATE RECEIVED: 10/27/11

**A: PRELIMINARY EXAMINATION:**

1. Cooler received by(initials): DW

DATE COOLER OPENED: 10/27/11  
 Date Received: 10/27/11

2. Circle one:

Hand delivered  
 (If so, skip 3)

Shipped

3. Did cooler come with a shipping slip?

Y

N

3a. Enter carrier name and airbill number here:

4. Were custody seals on the outside of cooler?

Y

How many & where: \_\_\_\_\_

Seal Date: \_\_\_\_\_

Seal Name: \_\_\_\_\_

N

5. Did the custody seals arrive unbroken and intact upon arrival?

Y

N

6. COC: N/A

7. Were Custody papers filled out properly (ink, signed, etc)?

Y

N

8. Were custody papers sealed in a plastic bag?

Y

N

9. Did you sign the COC in the appropriate place?

Y

N

10. Was the project identifiable from the COC papers?

Y

N

11. Was enough ice used to chill the cooler?

Y N

Temp. of cooler: 3.6

**B. Log-In:** Date samples were logged in:

10/27/11

By: DW

12. Type of packing in cooler(bubble wrap, popcorn)

Y

N

13. Were all bottles sealed in separate plastic bags?

Y

N

14. Did all bottles arrive unbroken and were labels in good condition?

Y

N

15. Were all bottle labels complete(ID, Date, time, etc.)

Y

N

16. Did all bottle labels agree with custody papers?

Y

N

17. Were the correct containers used for the tests indicated:

Y

N

18. Were samples received at the correct pH?

Y

N

19. Was sufficient amount of sample sent for the tests indicated?

Y

N

20. Were all samples submitted within holding time?

Y

N

21. Were bubbles absent in VOA samples?

Y

N

If NO, List Sample ID's and Lab #s: \_\_\_\_\_

22. Laboratory labeling verified by (initials): JM

Date: 10.27.11

November 16, 2011

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**RE: Analytical Results Case Narrative  
Analytics # 71473  
Peabody Terrace Project No: 210980**

Dear Ms. Wallace;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed for Polychlorinated Biphenyls (PCBs) by EPA Method 8082.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

- Case Narrative/Non-Conformance Summary
- Sample Log Sheet - Cover Page
- PCB Form 1 Data Sheet for Samples and Blanks
- Chromatograms
- PCB Form 10 Confirmation Results
- PCB Form 3 MS/MSD (LCS) Recoveries
- Chain of Custody (COC) Forms

## QC NON-CONFORMANCE SUMMARY

**Sample Receipt:**

No exceptions.

**PCBs by EPA Method 8082:**

No results were reported below the quantitation limit.

All samples were analyzed at dilutions due to concentrations of PCBs that exceeded the calibration range of the instrument.

The closing continuing calibration standards (M51151Sc&M51152SC) had low recoveries on column #2 for PCB 1254, PCB 1260 and Decachlorobiphenyl. Column#1 was in control for all analytes except Decachlorobiphenyl (76%). The analytical window was analyzed previously with similar results. Results were reported without qualification.

If you have any questions on these results, please do not hesitate to contact me.

Sincerely,  
ANALYTICS Environmental Laboratory, LLC



Stephen L. Knollmeyer  
Laboratory Director

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**Report Number: 71473**

**Revision: Rev. 0**

**Re: Peabody Terrace (Project No: 210980)**

Enclosed are the results of the analyses on your sample(s). Samples were received on 09 November 2011 and analyzed for the tests listed. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

| <u>Lab Number</u> | <u>Sample Date</u> | <u>Station Location</u> | <u>Analysis</u>             | <u>Comments</u> |
|-------------------|--------------------|-------------------------|-----------------------------|-----------------|
| 71473-1           | 11/09/11           | PTF-CBA-N-1941          | EPA 8082 (PCBs only)        |                 |
| 71473-2           | 11/09/11           | PTD-CBA-N-1942          | Electronic Data Deliverable |                 |
|                   | 11/09/11           | PTD-CBA-N-1942          | EPA 8082 (PCBs only)        |                 |

**Sample Receipt Exceptions:** None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, Virginia, Maryland, and North Carolina, and is accredited by the Department of Defense (DOD) ELAP program. A list of actual certified parameters is available upon request.

If you have any questions on these results, please do not hesitate to contact us.

Authorized signature

  
Stephen L. Knollmeyer Lab. Director

Date

11/16/2011

**This report shall not be reproduced, except in full, without the written consent of Analytics Environmental Laboratory, LLC.**

### MassDEP Analytical Protocol Certification Form

Laboratory Name: Analytics Environmental Laboratory, LLC Project #: 71473

Project Location: Peabody Terrace RTN:

This Form provides certifications for the following data set. Laboratory Sample ID Number(s):

71473-1, 71473-2

Matrices: ☐ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other

**CAM Protocol** (check all that apply below):

|   |  |   |  |   |  |
|---|--|---|--|---|--|
| 8260 VOC<br>CAM II A <input type="checkbox"/>     | 7470/7471 Hg<br>CAM III B <input type="checkbox"/> | MassDEP VPH<br>CAM IV A <input type="checkbox"/>        | 8081 Pesticides<br>CAM V B <input type="checkbox"/>            | 7196 Hex Cr<br>CAM VI B <input type="checkbox"/>        | MassDEP APH<br>CAM IX A <input type="checkbox"/> |
| 8270 SVOC<br>CAM II B <input type="checkbox"/>    | 7010 Metals<br>CAM III C <input type="checkbox"/>  | MassDEP EPH<br>CAM IV B <input type="checkbox"/>        | 8151 Herbicides<br>CAM V C <input type="checkbox"/>            | 8330 Explosives<br>CAM VIII A <input type="checkbox"/>  | TO-15 VOC<br>CAM IX B <input type="checkbox"/>   |
| 6010 Metals<br>CAM III A <input type="checkbox"/> | 6020 Metals<br>CAM III D <input type="checkbox"/>  | 8082 PCB<br>CAM V A <input checked="" type="checkbox"/> | 9014 Total<br>Cyanide/PAC<br>CAM VI A <input type="checkbox"/> | 6860 Perchlorate<br>CAM VIII B <input type="checkbox"/> |  |

**Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status**

|          |  |  |
|----------|--|--|
| <b>A</b> | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |
| <b>B</b> | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |
| <b>C</b> | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |
| <b>D</b> | Does the laboratory report comply with all reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |
| <b>E</b> | a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to individual method(s) for a list of significant modifications).<br>b. APH and TO-15 Methods only: Was the complete analyte list reported for each method? | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> Yes <input type="checkbox"/> No |
| <b>F</b> | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |

**Responses to Questions G, H and I below are required for "Presumptive Certainty" status**

|          |   |  |
|----------|---|--|
| <b>G</b> | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup> |
|----------|---|--|

**Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.**

|          |  |  |
|----------|--|--|
| <b>H</b> | Were ALL QC performance standards specified in the CAM protocol(s) achieved?                   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup> |
| <b>I</b> | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup> |

<sup>1</sup> All negative responses must be addressed in an attached laboratory narrative.

**I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.**

Signature: Stephen L. Knollmeyer Position: Laboratory Director

Printed Name: Stephen L. Knollmeyer Date: November 16, 2011



### Surrogate Compound Limits

|  | Matrix:<br>Units: | Aqueous<br>% Recovery | Solid<br>% Recovery | Method                      |
|--|-------------------|-----------------------|---------------------|-----------------------------|
| <b>Volatile Organic Compounds - Drinking Water</b> |                   |                       |                     |                             |
| 1,4-Difluorobenzene                                |                   | 70-130                |                     | EPA 524.2                   |
| Bromofluorobenzene                                 |                   | 70-130                |                     |                             |
| 1,2-Dichlorobenzene-d4                             |                   | 70-130                |                     |                             |
| <b>Volatile Organic Compounds</b>                  |                   |                       |                     |                             |
| 1,2-Dichloroethane-d4                              |                   | 70-120                | 70-120              | EPA 624/8260B               |
| Toluene-d8   |                   | 85-120                | 85-120              |                             |
| Bromofluorobenzene                                 |                   | 75-120                | 75-120              |                             |
| <b>Semi-Volatile Organic Compounds</b>             |                   |                       |                     |                             |
| 2-Fluorophenol                                     |                   | 20-110                | 35-105              | EPA 625/8270C               |
| d5-Phenol  |                   | 15-110                | 40-100              |                             |
| d5-nitrobenzene                                    |                   | 40-110                | 35-100              |                             |
| 2-Fluorobiphenyl                                   |                   | 50-110                | 45-105              |                             |
| 2,4,6-Tribromophenol                               |                   | 40-110                | 40-125              |                             |
| d14-p-terphenyl                                    |                   | 50-130                | 30-125              |                             |
| <b>PAH's by SIM</b>                                |                   |                       |                     |                             |
| d5-nitrobenzene                                    |                   | 21-110                | 35-110              | EPA 8270C                   |
| 2-Fluorobiphenyl                                   |                   | 36-121                | 45-105              |                             |
| d14-p-terphenyl                                    |                   | 33-141                | 30-125              |                             |
| <b>Pesticides and PCBs</b>                         |                   |                       |                     |                             |
| 2,4,5,6-Tetrachloro-m-xylene (TCX)                 |                   | 46-122                | 40-130              | EPA 608/8082                |
| Decachlorobiphenyl (DCB)                           |                   | 40-135                | 40-130              |                             |
| <b>Herbicides</b>                                  |                   |                       |                     |                             |
| Dichloroacetic acid (DCAA)                         |                   | 30-150                | 30-150              |                             |
| <b>Gasoline Range Organics/TPH Gasoline</b>        |                   |                       |                     |                             |
| Trifluorotoluene TFT (FID)                         |                   | 60-140                | 60-140              | MEDEP 4217/EPA 8015         |
| Bromofluorobenzene (BFB) (FID)                     |                   | 60-140                | 60-140              |                             |
| Trifluorotoluene TFT (PID)                         |                   | 60-140                | 60-140              |                             |
| Bromofluorobenzene (BFB) (PID)                     |                   | 60-140                | 60-140              |                             |
| <b>Diesel Range Organics/TPH Diesel</b>            |                   |                       |                     |                             |
| m-terphenyl  |                   | 60-140                | 60-140              | MEDEP 4125/EPA 8015/CT ETPH |
| <b>Volatile Petroleum Hydrocarbons</b>             |                   |                       |                     |                             |
| 2,5-Dibromotoluene (PID)                           |                   | 70-130                | 70-130              | MADEP VPH May 2004 Rev1.1   |
| 2,5-Dibromotoluene (FID)                           |                   | 70-130                | 70-130              |                             |
| <b>Extracatable Petroleum Hydrocarbons</b>         |                   |                       |                     |                             |
| 1-chloro-octadecane (aliphatic)                    |                   | 40-140                | 40-140              | MADEP EPH May 2004 Rev1.1   |
| o-Terphenyl (aromatic)                             |                   | 40-140                | 40-140              |                             |
| 2-Fluorobiphenyl (Fractionation)                   |                   | 40-140                | 40-140              |                             |
| 2-Bromonaphthalene (fractionation)                 |                   | 40-140                | 40-140              |                             |

## PCB DATA SUMMARIES

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

November 16, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** Lab QC

**Lab Sample ID:** B110911PSOX2  
**Matrix:** Soil  
**Percent Solid:** 100  
**Dilution Factor:** 1.0  
**Collection Date:**  
**Lab Receipt Date:**  
**Extraction Date:** 11/09/11  
**Analysis Date:** 11/15/11

**PCB ANALYTICAL RESULTS**

| COMPOUND   | Quantitation<br>Limit µg/kg | Results<br>µg/kg |
|--|-----------------------------|------------------|
| PCB-1016   | 33                          | U                |
| PCB-1221   | 33                          | U                |
| PCB-1232   | 33                          | U                |
| PCB-1242   | 33                          | U                |
| PCB-1248   | 33                          | U                |
| PCB-1254   | 33                          | U                |
| PCB-1260   | 33                          | U                |
| PCB-1262   | 33                          | U                |
| PCB-1268   | 33                          | U                |
| <b><u>Surrogate Standard Recovery</u></b>                                |                             |                  |
| 2,4,5,6-Tetrachloro-m-xylene   | 118 %                       |                  |
| Decachlorobiphenyl   | 95 %                        |                  |
| U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank |                             |                  |

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

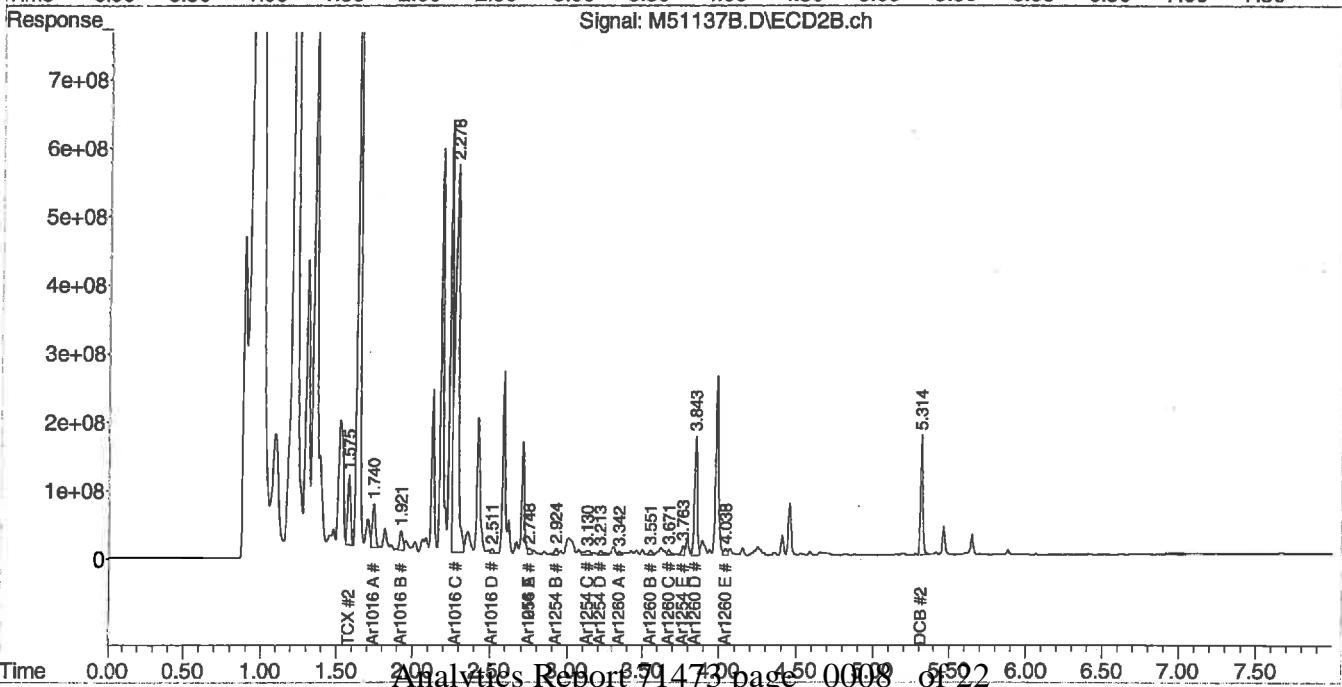
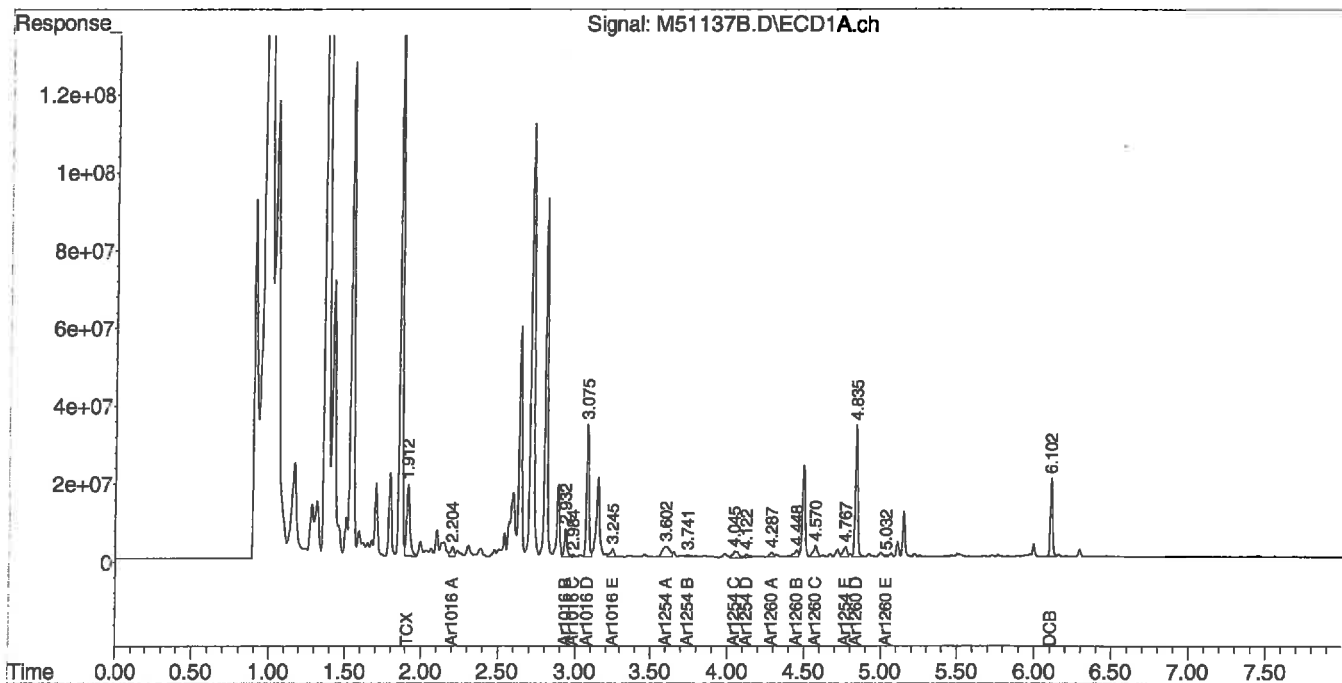
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

Data Path : C:\msdchem\1\DATA\111511-M\  
 Data File : M51137B.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 15 Nov 2011 12:25 pm  
 Operator : JK  
 Sample : B110911PSOX2,,A/C  
 Misc : SOIL  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Nov 16 09:28:16 2011  
 Quant Method : C:\msdchem\1\METHODS\PCB100411.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Tue Nov 15 09:28:10 2011  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

November 16, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTF-CBA-N-1941

**Lab Sample ID:** 71473-1  
**Matrix:** Solid  
**Percent Solid:** 97  
**Dilution Factor:** 20  
**Collection Date:** 11/09/11  
**Lab Receipt Date:** 11/09/11  
**Extraction Date:** 11/09/11  
**Analysis Date:** 11/15/11

**PCB ANALYTICAL RESULTS**

| COMPOUND   | Quantitation<br>Limit µg/kg | Results<br>µg/kg |
|--|-----------------------------|------------------|
| PCB-1016   | 660                         | U                |
| PCB-1221   | 660                         | U                |
| PCB-1232   | 660                         | U                |
| PCB-1242   | 660                         | U                |
| PCB-1248   | 660                         | U                |
| PCB-1254   | 660                         | <b>6590</b>      |
| PCB-1260   | 660                         | U                |
| PCB-1262   | 660                         | U                |
| PCB-1268   | 660                         | U                |
| <b><u>Surrogate Standard Recovery</u></b>                                |                             |                  |
| 2,4,5,6-Tetrachloro-m-xylene   | 79 %                        |                  |
| Decachlorobiphenyl   | 83 %                        |                  |
| U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank |                             |                  |

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

|                                   |                           |
|-----------------------------------|---------------------------|
| Instrument ID: M                  | SDG: 71473                |
| GC Column #1: STX-CLPesticides I  | Sample: 71473-1,1:10,,A/C |
| Column ID: 0.25 mm                | Data File: M51141.D       |
| GC Column #2: STX-CLPesticides II | Dilution Factor: 20.2     |
| Column ID: 0.25 mm                |                           |

| Column #1 |                       | Column #2             |       |
|-----------|-----------------------|-----------------------|-------|
| COMPOUND  | SAMPLE RESULT (ug/kg) | SAMPLE RESULT (ug/kg) | RPD # |
| PCB 1254  | 6591                  | 5481                  | 18.4  |

# Column to be used to flag RPD values greater than QC limit of 40%

\* Values outside QC limits

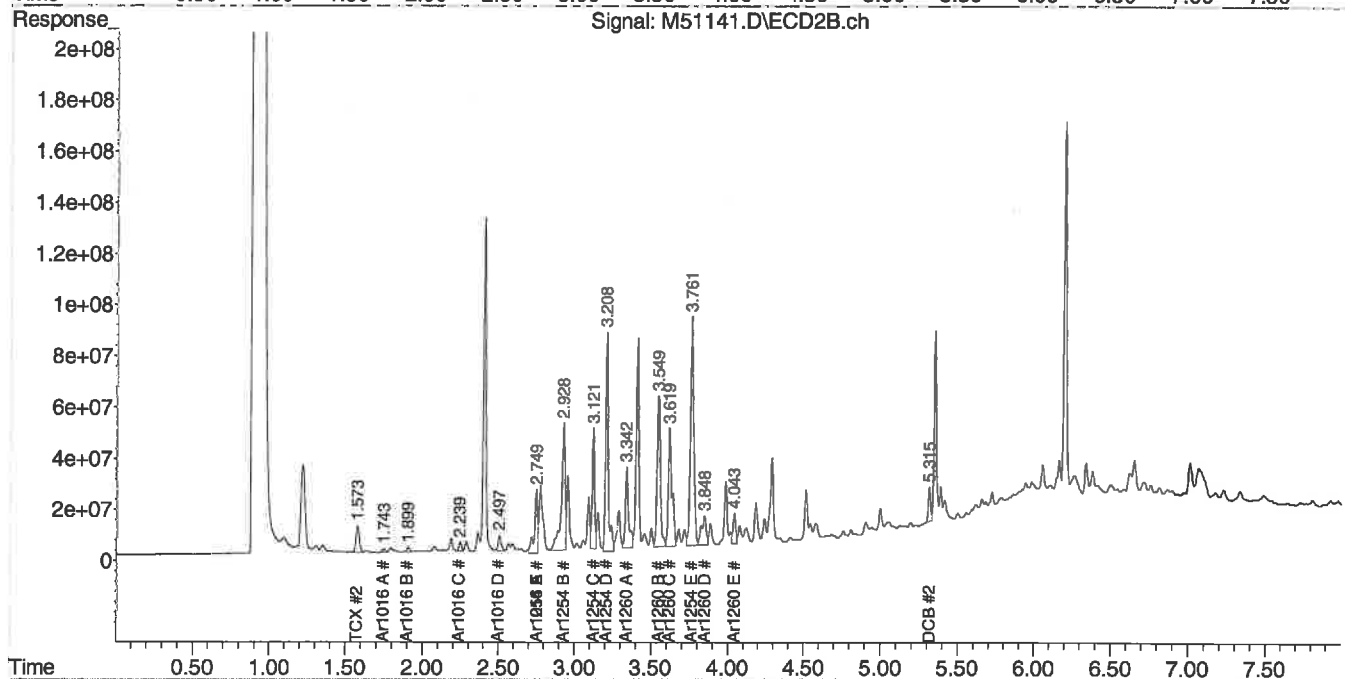
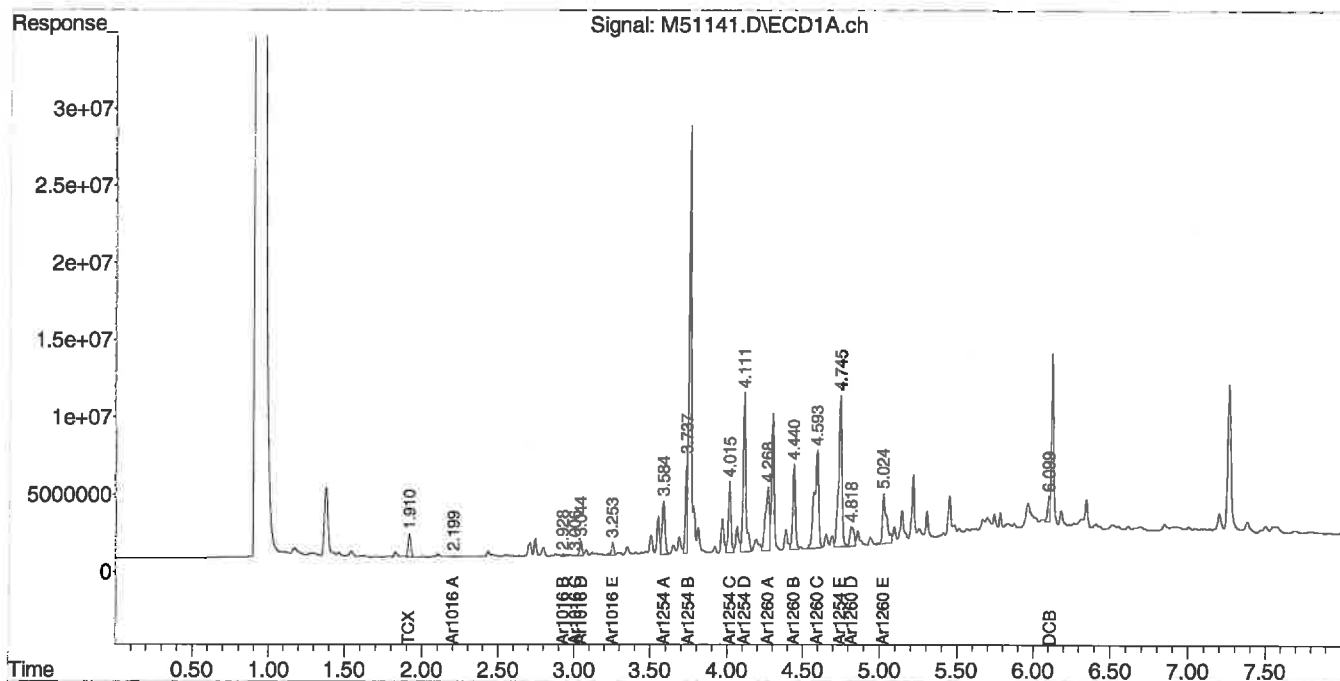
Comments: \_\_\_\_\_



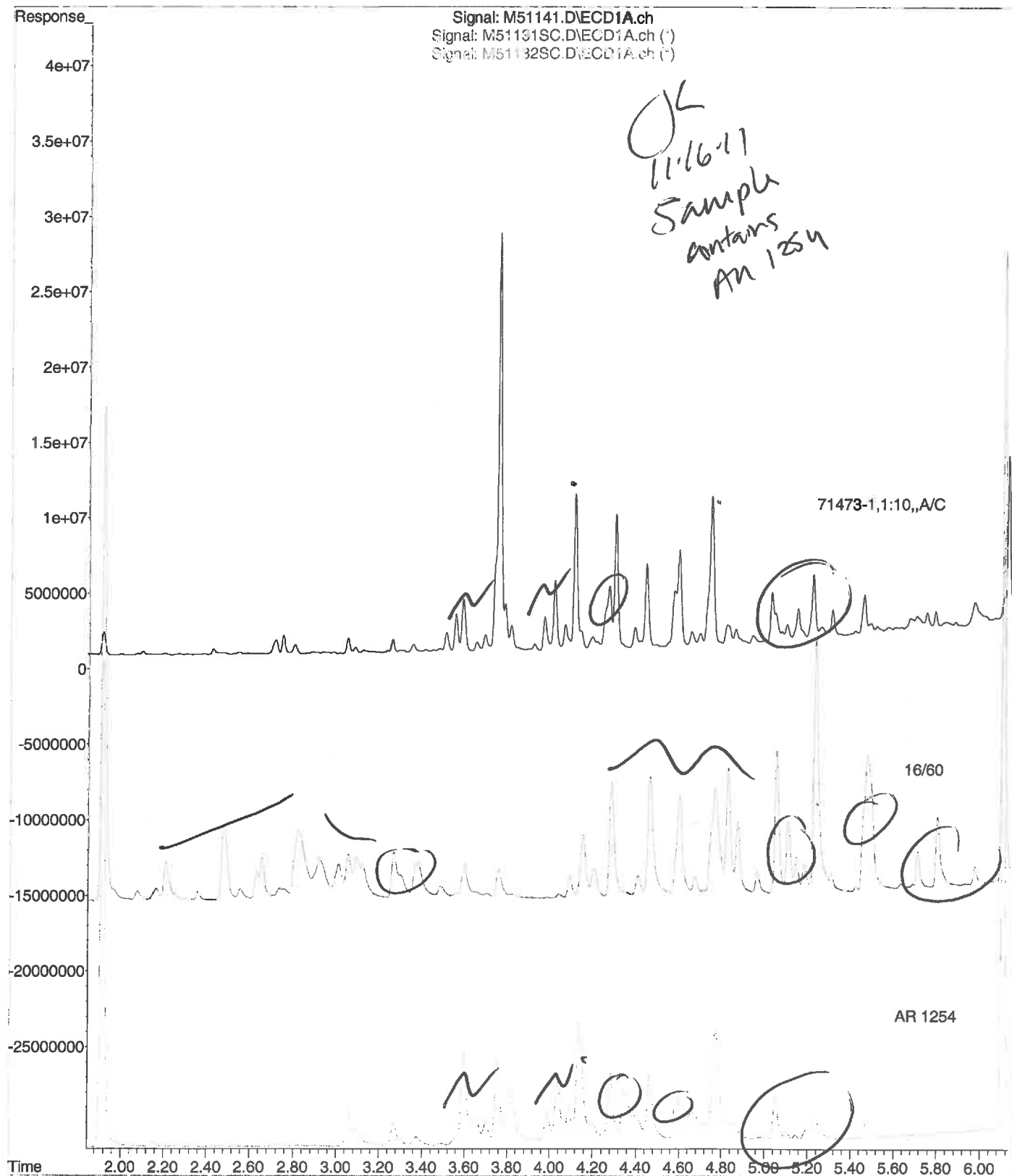
Data Path : C:\msdchem\1\DATA\111511-M\  
Data File : M51141.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 15 Nov 2011 1:06 pm  
Operator : JK  
Sample : 71473-1,1:10,,A/C  
Misc : SOIL  
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Nov 16 09:52:04 2011  
Quant Method : C:\msdchem\1\METHODS\PCB100411.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Tue Nov 15 09:28:10 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\111511-M\M51141.D  
Operator : JK  
Acquired : 15 Nov 2011 1:06 pm using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 71473-1,1:10,,A/C  
Misc Info : SOIL  
Vial Number: 10



Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

November 16, 2011

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBA-N-1942

**Lab Sample ID:** 71473-2  
**Matrix:** Solid  
**Percent Solid:** 99  
**Dilution Factor:** 9  
**Collection Date:** 11/09/11  
**Lab Receipt Date:** 11/09/11  
**Extraction Date:** 11/09/11  
**Analysis Date:** 11/15/11

**PCB ANALYTICAL RESULTS**

| COMPOUND   | Quantitation<br>Limit µg/kg | Results<br>µg/kg |
|--|-----------------------------|------------------|
| PCB-1016   | 297                         | U                |
| PCB-1221   | 297                         | U                |
| PCB-1232   | 297                         | U                |
| PCB-1242   | 297                         | U                |
| PCB-1248   | 297                         | U                |
| PCB-1254   | 297                         | <b>2160</b>      |
| PCB-1260   | 297                         | U                |
| PCB-1262   | 297                         | U                |
| PCB-1268   | 297                         | U                |
| <b><u>Surrogate Standard Recovery</u></b>                                |                             |                  |
| 2,4,5,6-Tetrachloro-m-xylene   | 81 %                        |                  |
| Decachlorobiphenyl   | 67 %                        |                  |
| U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank |                             |                  |

METHODOLOGY: Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.

Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.

COMMENTS: Results are expressed on a dry weight basis.

PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

|                                   |                          |
|-----------------------------------|--------------------------|
| Instrument ID: M                  | SDG: 71473               |
| GC Column #1: STX-CLPesticides I  | Sample: 71473-2,1:5,,A/C |
| Column ID: 0.25 mm                | Data File: M51142.D      |
| GC Column #2: STX-CLPesticides II | Dilution Factor: 8.6     |
| Column ID: 0.25 mm                |                          |

| Column #1 |                       | Column #2             |      |   |
|-----------|-----------------------|-----------------------|------|---|
| COMPOUND  | SAMPLE RESULT (ug/kg) | SAMPLE RESULT (ug/kg) | RPD  | # |
| PCB 1254  | 2155                  | 1844                  | 15.5 |   |

# Column to be used to flag RPD values greater than QC limit of 40%

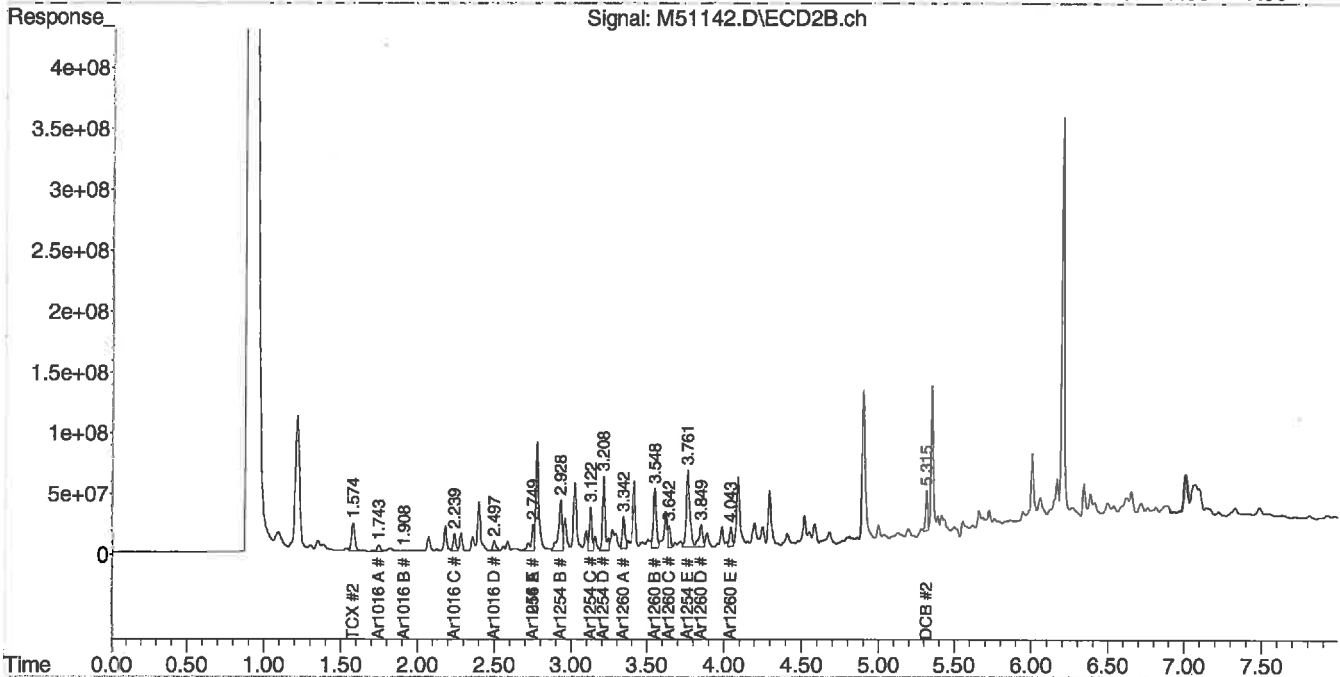
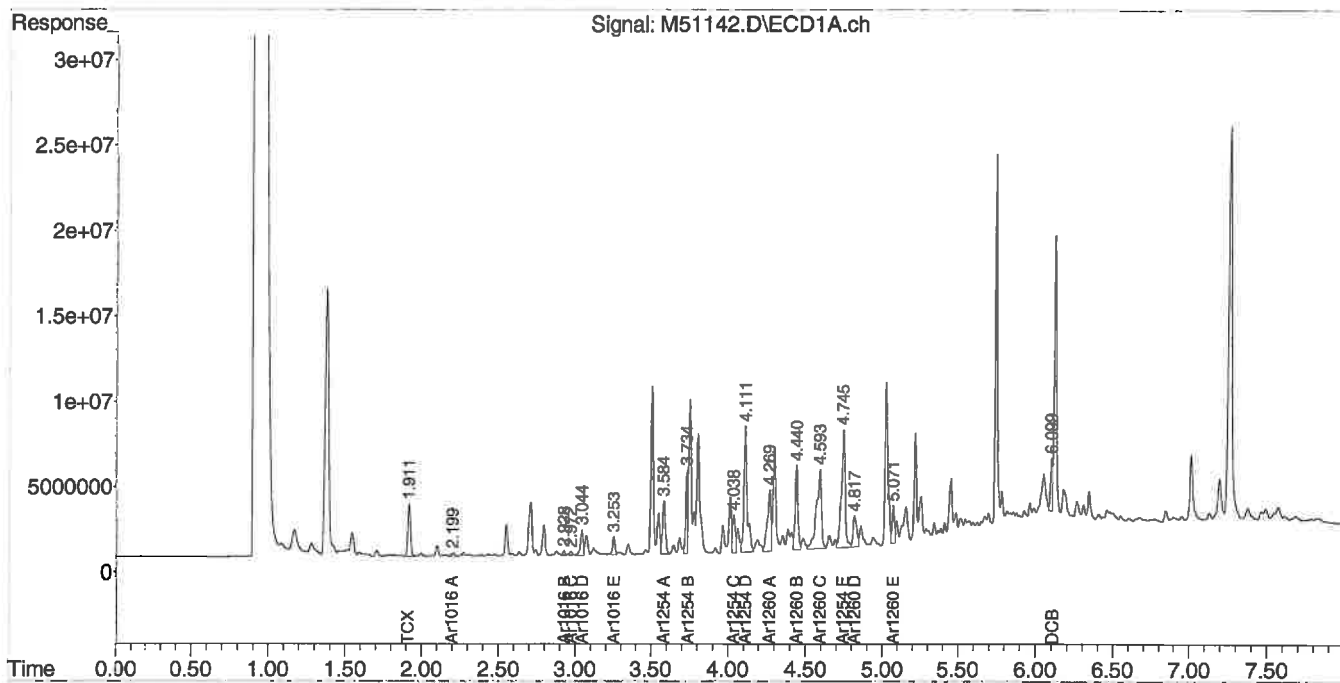
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\111511-M\  
Data File : M51142.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 15 Nov 2011 1:16 pm  
Operator : JK  
Sample : 71473-2,1:5,,A/C  
Misc : SOIL  
ALS Vial : 11 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Nov 16 09:54:15 2011  
Quant Method : C:\msdchem\1\METHODS\PCB100411.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Tue Nov 15 09:28:10 2011  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



PCB  
QC FORMS



Instrument ID: M  
GC Column #1: STX-CLPesticides I  
Column ID: 0.25 mm  
GC Column #2: STX-CLPesticides II  
Column ID: 0.25 mm

[illegible]

# Column to be used to flag recovery values outside of QC limits  
\* Values outside QC limits  
D System Monitoring Compound diluted out



PCB SOIL  
LABORATORY CONTROL SAMPLE/DUPLICATE  
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 71473

Non-spiked sample: B110911PSOX,,A/C

Spike: L110911PSOX,,A/C

Spike duplicate: LD110911PSOX,,A/C

|             | LCS SPIKE     | LCSD SPIKE    | LOWER | UPPER | RPD   | NON-SPIKE      | SPIKE          | SPIKE |   | SPIKE DUP      | SPIKE DUP |   |      |   |
|-------------|---------------|---------------|-------|-------|-------|----------------|----------------|-------|---|----------------|-----------|---|------|---|
| COMPOUND    | ADDED (ug/kg) | ADDED (ug/kg) | LIMIT | LIMIT | LIMIT | RESULT (ug/kg) | RESULT (ug/kg) | % REC | # | RESULT (ug/kg) | % REC     | # | RPD  | # |
| PCB 1016    | 200           | 200           | 65    | 140   | 30    | 0              | 193            | 96    |   | 213            | 106       |   | 9.9  |   |
| PCB 1260    | 200           | 200           | 60    | 130   | 30    | 0              | 191            | 95    |   | 202            | 101       |   | 5.9  |   |
| PCB 1016 #2 | 200           | 200           | 65    | 140   | 30    | 0              | 189            | 95    |   | 241            | 120       |   | 24.0 |   |
| PCB 1260 #2 | 200           | 200           | 60    | 130   | 30    | 0              | 180            | 90    |   | 204            | 102       |   | 12.5 |   |

# Column to be used to flag recovery and RPD values outside of QC limits

\* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: \_\_\_\_\_  
\_\_\_\_\_

## CHAIN OF CUSTODIES

|   |                       |  |          |   |                                   |          |
|---|-----------------------|--|----------|---|-----------------------------------|----------|
| <b>environmental laboratory LLC</b>   |                       | 195 Commerce Way Suite E<br>Portsmouth, NH 03801<br>Phone (603) 436-5111<br>Fax (603) 430-2151   |          |   |                                   |          |
| Project# 210980 Proj. Name: Peabody Terrace   |                       | Matrix Key:<br>C = Concrete<br>WP = Wipe<br>WW = Wastewater<br>SW = Surface Water<br>GW = Groundwater<br>DW = Drinking Water<br>S = Soil/Sludge<br>O = Oil<br>E = Extract<br>X = Other   |          |   |                                   |          |
| Company: Woodward & Curran  |                       | Quote #  |          |   |                                   |          |
| Contact: Amy Wallace  |                       |  |          |   |                                   |          |
| Address: 41 Hutchins Drive<br>Portland Maine  |                       |  |          |   |                                   |          |
| Phone: 207-774-2112 PO#   |                       | Sampler (Signature): <i>[Signature]</i>  |          |   |                                   |          |
| Station Identification  | Sample Date           | Sample Time  | Analysis |   |                                   |          |
| PTF-CBA-N-1941  | 11/9/11               | 0905   | PCBS     |   |                                   |          |
| PTD-CBA-N-1942  | 11/9/11               | 0920   | PCBS     |   |                                   |          |
| <div>Comments / Instructions:<br/>PCBs 8082 Soxhlet<br/><del>* phase PCBs not to be</del><br/><del>testers otherwise</del><br/>JR 11/9/11</div> |                       |  |          |   |                                   |          |
|   |                       |  |          | Email Results to: <i>shane@woodwardcurran.com</i> |                                   |          |
|   |                       |  |          | Turnaround Request                                |                                   |          |
|   |                       |  |          | Standard <input checked="" type="checkbox"/>      | Priority <input type="checkbox"/> | Due Date |
|   |                       |  |          | Due Date  | Due Date                          |          |
|   |                       |  |          | Lab Approval Required                             |                                   |          |
|   |                       |  |          | <i>5 day</i>                                      |                                   |          |
|   |                       |  |          |   |                                   |          |
|   |                       |  |          |   |                                   |          |
|   |                       |  |          |   |                                   |          |
| Project Requirements:   |                       | State Standard: _____<br>(eg. S-1 or GW-1)<br>EED Required: Y* N<br>Type: _____<br>Other: _____  |          |   |                                   |          |
| Report Type   |                       | State: _____<br>NH <input type="checkbox"/> MA <input checked="" type="checkbox"/> ME <input type="checkbox"/> CT <input type="checkbox"/> RI <input type="checkbox"/><br>Level I <input checked="" type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> Level IV <input type="checkbox"/><br>Standard <input type="checkbox"/> Other: _____ |          |   |                                   |          |
| Container Key   |                       | pH Analytics Sample #  |          |   |                                   |          |
| P=plastic G=glass   | Container number/type |  |          |   |                                   |          |
| Matrix  |                       |  |          |   |                                   |          |
| Other   |                       |  |          |   |                                   |          |
| Preservation  |                       |  |          |   |                                   |          |
| Unpres  |                       |  |          |   |                                   |          |
| HNO <sub>3</sub>  |                       |  |          |   |                                   |          |
| H <sub>2</sub> SO <sub>4</sub>  |                       |  |          |   |                                   |          |
| HCL   |                       |  |          |   |                                   |          |
| Methanol  |                       |  |          |   |                                   |          |
| Samples were:   |                       | Date: 11/9/11 Time: 12:35  |          |   |                                   |          |
| 1) Shipped <del>hand-delivered</del>  |                       | Received By: <i>[Signature]</i>  |          |   |                                   |          |
| 2) Temp blank °C 2,2,2  |                       | Time: _____  |          |   |                                   |          |
| 3) Received in good condition <del>Y</del> or N   |                       | Date: _____  |          |   |                                   |          |
| 4) pH checked by: <i>WA</i>   |                       | Received By: <i>[Signature]</i>  |          |   |                                   |          |
| 5) Labels checked by: <i>JA 11.9.11</i>   |                       | Time: _____  |          |   |                                   |          |

ANALYTICS SAMPLE RECEIPT CHECKLIST

AEL LAB#: 71473  
 CLIENT: Woodard + Curran  
 PROJECT: Panbody Terrain

COOLER NUMBER: 192  
 NUMBER OF COOLERS: 1  
 DATE RECEIVED: 11/9/11

**A: PRELIMINARY EXAMINATION:**

1. Cooler received by (initials): DL

DATE COOLER OPENED: 11/9/11  
 Date Received: 11/9/11

2. Circle one:

Hand delivered  
 (If so, skip 3)

Shipped

3. Did cooler come with a shipping slip?

Y

N/A

3a. Enter carrier name and airbill number here:

4. Were custody seals on the outside of cooler?

Y

N/A

How many & where:

Seal Date:

Seal Name:

5. Did the custody seals arrive unbroken and intact upon arrival?

Y

N/A

6. COC:

N/A

7. Were Custody papers filled out properly (ink, signed, etc)?

Y

N

8. Were custody papers sealed in a plastic bag?

Y

N

9. Did you sign the COC in the appropriate place?

Y

N

10. Was the project identifiable from the COC papers?

Y

N

11. Was enough ice used to chill the cooler?

Y N

Temp. of cooler:

2, 2 °C

**B. Log-In:** Date samples were logged in:

11/9/11

By:

DL

12. Type of packing in cooler (bubble wrap, popcorn)

Y

N

13. Were all bottles sealed in separate plastic bags?

Y

N

14. Did all bottles arrive unbroken and were labels in good condition?

Y

N

15. Were all bottle labels complete (ID, Date, time, etc.)

Y

N

16. Did all bottle labels agree with custody papers?

Y

N

17. Were the correct containers used for the tests indicated?

Y

N

18. Were samples received at the correct pH?

Y

N/A

19. Was sufficient amount of sample sent for the tests indicated?

Y

N

20. Were all samples submitted within holding time?

Y

N

21. Were bubbles absent in VOA samples?

Y

N/A

If NO, List Sample ID's and Lab #s:

22. Laboratory labeling verified by (initials):

ju

Date:

11.9.11

March 06, 2012

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**RE: Analytical Results Case Narrative  
Analytics # 71931 Revision 1  
Peabody Terrace Project No: 210980**

Dear Ms. Wallace;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed for Polychlorinated Biphenyls (PCBs) by EPA Method 8082.

Revision 1: This report has been revised to report the correct surrogate recoveries on the Form 1 for B010512PSOX, RR to match the Form 2.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

- Case Narrative/Non-Conformance Summary
- Sample Log Sheet - Cover Page
- PCB Form 1 Data Sheet for Samples and Blanks
- Chromatograms
- PCB Form 10 Confirmation Results
- PCB Form 3 MS/MSD (LCS) Recoveries
- Chain of Custody (COC) Forms

## QC NON-CONFORMANCE SUMMARY

**Sample Receipt:**

No exceptions.

**PCBs by EPA Method 8082:**

No results were reported below the quantitation limit.

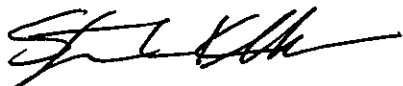
All samples required to dilution due sample matrix affect.

Samples 71931-1 and 71931-5 had high recovery for surrogate Tetrachloro-m-xylene on column#1. Column#2 was in control. Surrogate results for these samples were reported off of column#2 without qualification.

The laboratory blank (B010512PSOX RR) had PCB-1254 detected at 35 ug/kg. An analytical window blank (B010912PSOX) analyzed before the samples was non-detect for PCBs. All samples in this SDG had sample results greater than 10X the level detected in the blank. Results were reported without qualification.

If you have any questions on these results, please do not hesitate to contact me.

Sincerely,  
ANALYTICS Environmental Laboratory, LLC



Stephen L. Knollmeyer  
Laboratory Director

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**Report Number: 71931**

**Revision: Rev. 1**

**Re: Peabody Terrace (Project No: 210980)**

Enclosed are the results of the analyses on your sample(s). Samples were received on 04 January 2012 and analyzed for the tests listed. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

| <u>Lab Number</u> | <u>Sample Date</u> | <u>Station Location</u> | <u>Analysis</u>             | <u>Comments</u> |
|-------------------|--------------------|-------------------------|-----------------------------|-----------------|
| 71931-1           | 01/04/12           | PTE-CBA-S-2024          | EPA 8082 (PCBs only)        |                 |
| 71931-2           | 01/04/12           | PTF-CBA-N-2025          | EPA 8082 (PCBs only)        |                 |
| 71931-3           | 01/04/12           | PTC-CBA-E-2026          | EPA 8082 (PCBs only)        |                 |
| 71931-4           | 01/04/12           | PTB-CBA-W-2027          | EPA 8082 (PCBs only)        |                 |
| 71931-5           | 01/04/12           | PTD-CBA-W-2028          | EPA 8082 (PCBs only)        |                 |
| 71931-6           | 01/04/12           | PTD-CBA-E-2029          | Electronic Data Deliverable |                 |
|                   | 01/04/12           | PTD-CBA-E-2029          | EPA 8082 (PCBs only)        |                 |

**Sample Receipt Exceptions:** None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, Virginia, Maryland, and North Carolina, and is accredited by the Department of Defense (DOD) ELAP program. A list of actual certified parameters is available upon request.

If you have any questions on these results, please do not hesitate to contact us.

Authorized signature

A handwritten signature in black ink, appearing to read "S. L. Knollmeyer", written over a horizontal line.

Stephen L. Knollmeyer Lab. Director

Date

3/6/2012

**This report shall not be reproduced, except in full, without the written consent of Analytics Environmental Laboratory, LLC.**

## MassDEP Analytical Protocol Certification Form

Laboratory Name: Analytics Environmental Laboratory, LLC

Project #: 71931

Project Location: Peabody Terrace

RTN:

**This Form provides certifications for the following data set. Laboratory Sample ID Number(s):**

71931-1, 71931-2, 71931-3, 71931-4, 71931-5, 71931-6

Matrices: ☐ Groundwater/Surface Water ☒ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other

**CAM Protocol (check all that apply below):**

|   |  |   |  |   |  |
|---|--|---|--|---|--|
| 8260 VOC<br>CAM II A <input type="checkbox"/>     | 7470/7471 Hg<br>CAM III B <input type="checkbox"/> | MassDEP VPH<br>CAM IV A <input type="checkbox"/>        | 8081 Pesticides<br>CAM V B <input type="checkbox"/>            | 7196 Hex Cr<br>CAM VI B <input type="checkbox"/>        | MassDEP APH<br>CAM IX A <input type="checkbox"/> |
| 8270 SVOC<br>CAM II B <input type="checkbox"/>    | 7010 Metals<br>CAM III C <input type="checkbox"/>  | MassDEP EPH<br>CAM IV B <input type="checkbox"/>        | 8151 Herbicides<br>CAM V C <input type="checkbox"/>            | 8330 Explosives<br>CAM VIII A <input type="checkbox"/>  | TO-15 VOC<br>CAM IX B <input type="checkbox"/>   |
| 6010 Metals<br>CAM III A <input type="checkbox"/> | 6020 Metals<br>CAM III D <input type="checkbox"/>  | 8082 PCB<br>CAM V A <input checked="" type="checkbox"/> | 9014 Total<br>Cyanide/PAC<br>CAM VI A <input type="checkbox"/> | 6860 Perchlorate<br>CAM VIII B <input type="checkbox"/> |  |

**Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status**

|          |  |  |
|----------|--|--|
| <b>A</b> | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |
| <b>B</b> | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |
| <b>C</b> | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |
| <b>D</b> | Does the laboratory report comply with all reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |
| <b>E</b> | a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to individual method(s) for a list of significant modifications).<br>b. APH and TO-15 Methods only: Was the complete analyte list reported for each method? | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> Yes <input type="checkbox"/> No |
| <b>F</b> | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |

**Responses to Questions G, H and I below are required for "Presumptive Certainty" status**


|          |   |  |
|----------|---|--|
| <b>G</b> | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup> |
|----------|---|--|

**Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.**

|          |  |  |
|----------|--|--|
| <b>H</b> | Were ALL QC performance standards specified in the CAM protocol(s) achieved?                   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <sup>1</sup> |
| <b>I</b> | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup> |

<sup>1</sup> All negative responses must be addressed in an attached laboratory narrative.

**I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.**

Signature:  Position: Laboratory Director

Printed Name: Stephen L. Knollmeyer

Date: January 12, 2012



### Surrogate Compound Limits

|  | Matrix:<br>Units: | Aqueous<br>% Recovery | Solid<br>% Recovery | Method                      |
|--|-------------------|-----------------------|---------------------|-----------------------------|
| <b>Volatile Organic Compounds - Drinking Water</b> |                   |                       |                     |                             |
| 1,4-Difluorobenzene                                |                   | 70-130                |                     | EPA 524.2                   |
| Bromofluorobenzene                                 |                   | 70-130                |                     |                             |
| 1,2-Dichlorobenzene-d4                             |                   | 70-130                |                     |                             |
| <b>Volatile Organic Compounds</b>                  |                   |                       |                     |                             |
| 1,2-Dichloroethane-d4                              |                   | 70-120                | 70-120              | EPA 624/8260B               |
| Toluene-d8   |                   | 85-120                | 85-120              |                             |
| Bromofluorobenzene                                 |                   | 75-120                | 75-120              |                             |
| <b>Semi-Volatile Organic Compounds</b>             |                   |                       |                     |                             |
| 2-Fluorophenol                                     |                   | 20-110                | 35-105              | EPA 625/8270C               |
| d5-Phenol  |                   | 15-110                | 40-100              |                             |
| d5-nitrobenzene                                    |                   | 40-110                | 35-100              |                             |
| 2-Fluorobiphenyl                                   |                   | 50-110                | 45-105              |                             |
| 2,4,6-Tribromophenol                               |                   | 40-110                | 40-125              |                             |
| d14-p-terphenyl                                    |                   | 50-130                | 30-125              |                             |
| <b>PAH's by SIM</b>                                |                   |                       |                     |                             |
| d5-nitrobenzene                                    |                   | 21-110                | 35-110              | EPA 8270C                   |
| 2-Fluorobiphenyl                                   |                   | 36-121                | 45-105              |                             |
| d14-p-terphenyl                                    |                   | 33-141                | 30-125              |                             |
| <b>Pesticides and PCBs</b>                         |                   |                       |                     |                             |
| 2,4,5,6-Tetrachloro-m-xylene (TCX)                 |                   | 46-122                | 40-130              | EPA 608/8082                |
| Decachlorobiphenyl (DCB)                           |                   | 40-135                | 40-130              |                             |
| <b>Herbicides</b>                                  |                   |                       |                     |                             |
| Dichloroacetic acid (DCAA)                         |                   | 30-150                | 30-150              |                             |
| <b>Gasoline Range Organics/TPH Gasoline</b>        |                   |                       |                     |                             |
| Trifluorotoluene TFT (FID)                         |                   | 60-140                | 60-140              | MEDEP 4217/EPA 8015         |
| Bromofluorobenzene (BFB) (FID)                     |                   | 60-140                | 60-140              |                             |
| Trifluorotoluene TFT (PID)                         |                   | 60-140                | 60-140              |                             |
| Bromofluorobenzene (BFB) (PID)                     |                   | 60-140                | 60-140              |                             |
| <b>Diesel Range Organics/TPH Diesel</b>            |                   |                       |                     |                             |
| m-terphenyl  |                   | 60-140                | 60-140              | MEDEP 4125/EPA 8015/CT ETPH |
| <b>Volatile Petroleum Hydrocarbons</b>             |                   |                       |                     |                             |
| 2,5-Dibromotoluene (PID)                           |                   | 70-130                | 70-130              | MADEP VPH May 2004 Rev1.1   |
| 2,5-Dibromotoluene (FID)                           |                   | 70-130                | 70-130              |                             |
| <b>Extracatable Petroleum Hydrocarbons</b>         |                   |                       |                     |                             |
| 1-chloro-octadecane (aliphatic)                    |                   | 40-140                | 40-140              | MADEP EPH May 2004 Rev1.1   |
| o-Terphenyl (aromatic)                             |                   | 40-140                | 40-140              |                             |
| 2-Fluorobiphenyl (Fractionation)                   |                   | 40-140                | 40-140              |                             |
| 2-Bromonaphthalene (fractionation)                 |                   | 40-140                | 40-140              |                             |

## PCB DATA SUMMARIES

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

March 6, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** Lab QC

**Lab Sample ID:** B010512PSOX RR  
**Matrix:** Soil  
**Percent Solid:** 100  
**Dilution Factor:** 1.0  
**Collection Date:**  
**Lab Receipt Date:**  
**Extraction Date:** 01/05/12  
**Analysis Date:** 01/11/12

**PCB ANALYTICAL RESULTS**

| COMPOUND   | Quantitation<br>Limit µg/kg | Results<br>µg/kg |
|--|-----------------------------|------------------|
| PCB-1016   | 33                          | U                |
| PCB-1221   | 33                          | U                |
| PCB-1232   | 33                          | U                |
| PCB-1242   | 33                          | U                |
| PCB-1248   | 33                          | U                |
| PCB-1254   | 33                          | 35               |
| PCB-1260   | 33                          | U                |
| PCB-1262   | 33                          | U                |
| PCB-1268   | 33                          | U                |
| <b><u>Surrogate Standard Recovery</u></b>                                |                             |                  |
| 2,4,5,6-Tetrachloro-m-xylene   | 85                          | %                |
| Decachlorobiphenyl   | 72                          | %                |
| U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank |                             |                  |

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.

PCB EXT Report

Authorized signature



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M

SDG:

GC Column #1: STX-CLPesticides I

Sample: B010512PSOX,RR,,A/C

Column ID: 0.25 mm

Data File: M53430B.D

GC Column #2: STX-CLPesticides II

Dilution Factor: 1.0

Column ID: 0.25 mm

| Column #1 |                       | Column #2             |     | # |
|-----------|-----------------------|-----------------------|-----|---|
| COMPOUND  | SAMPLE RESULT (ug/kg) | SAMPLE RESULT (ug/kg) | RPD |   |
| PCB 1254  | 34                    | 35                    | 3.8 |   |

# Column to be used to flag RPD values greater than QC limit of 40%

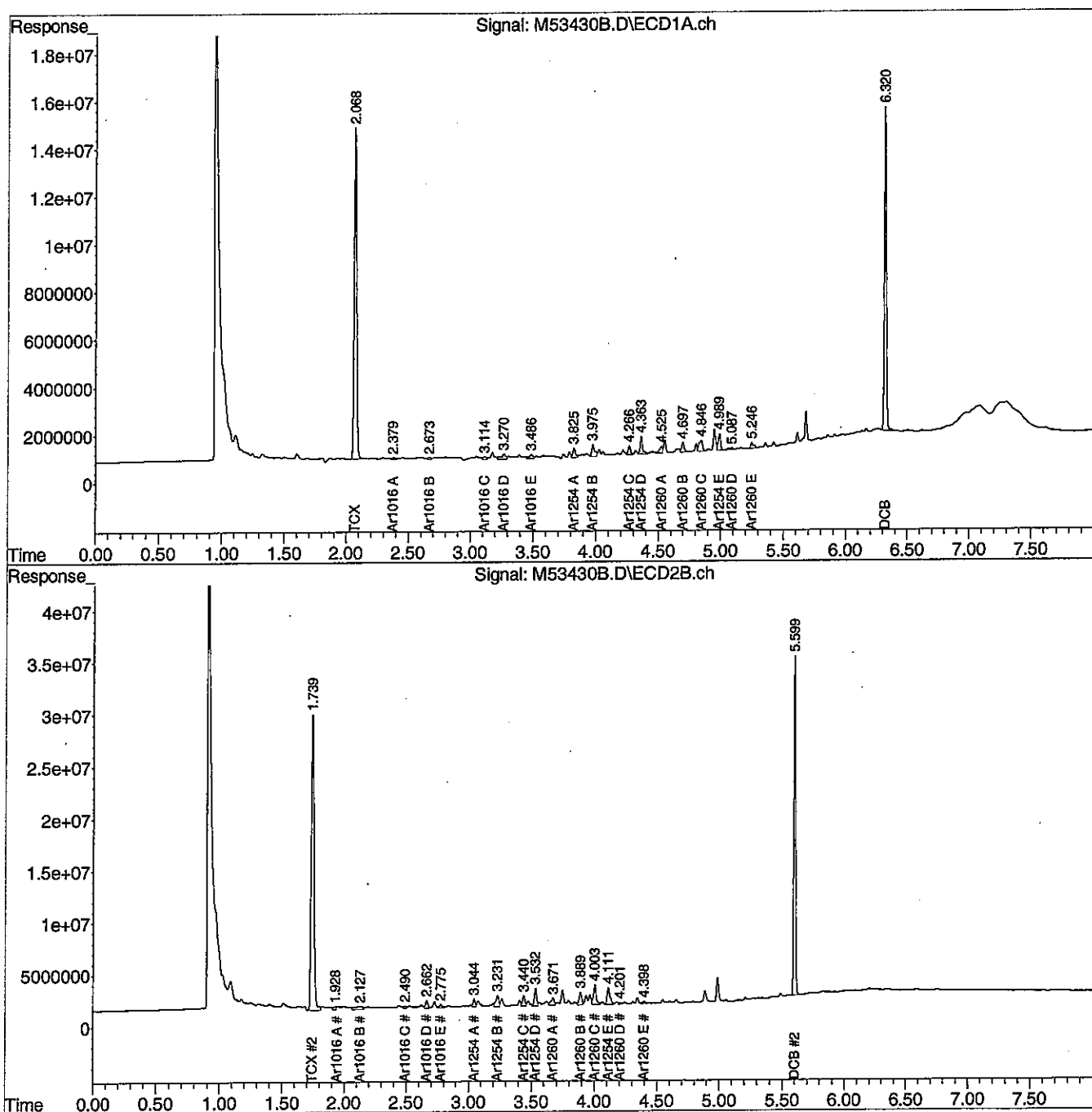
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\011112-M\  
 Data File : M53430B.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 11 Jan 2012 9:48 am  
 Operator : JK  
 Sample : B010512PSOX,RR,,A/C  
 Misc : SOIL  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Jan 11 15:31:48 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB011012.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Tue Jan 10 21:12:58 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

January 11, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace

**Project Number:** 210980

**Field Sample ID:** Lab QC

**Lab Sample ID:** B010912PSOX

**Matrix:** Soil

**Percent Solid:** 100

**Dilution Factor:** 1.0

**Collection Date:**

**Lab Receipt Date:**

**Extraction Date:** 01/09/12

**Analysis Date:** 01/11/12

**PCB ANALYTICAL RESULTS**

| COMPOUND   | Quantitation<br>Limit $\mu\text{g/kg}$ | Results<br>$\mu\text{g/kg}$ |
|--|--|-----------------------------|
| PCB-1016   | 33                                     | U                           |
| PCB-1221   | 33                                     | U                           |
| PCB-1232   | 33                                     | U                           |
| PCB-1242   | 33                                     | U                           |
| PCB-1248   | 33                                     | U                           |
| PCB-1254   | 33                                     | U                           |
| PCB-1260   | 33                                     | U                           |
| PCB-1262   | 33                                     | U                           |
| PCB-1268   | 33                                     | U                           |
| <b>Surrogate Standard Recovery</b>                                       |  |                             |
| 2,4,5,6-Tetrachloro-m-xylene   | 79                                     | %                           |
| Decachlorobiphenyl   | 81                                     | %                           |
| U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank |  |                             |

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

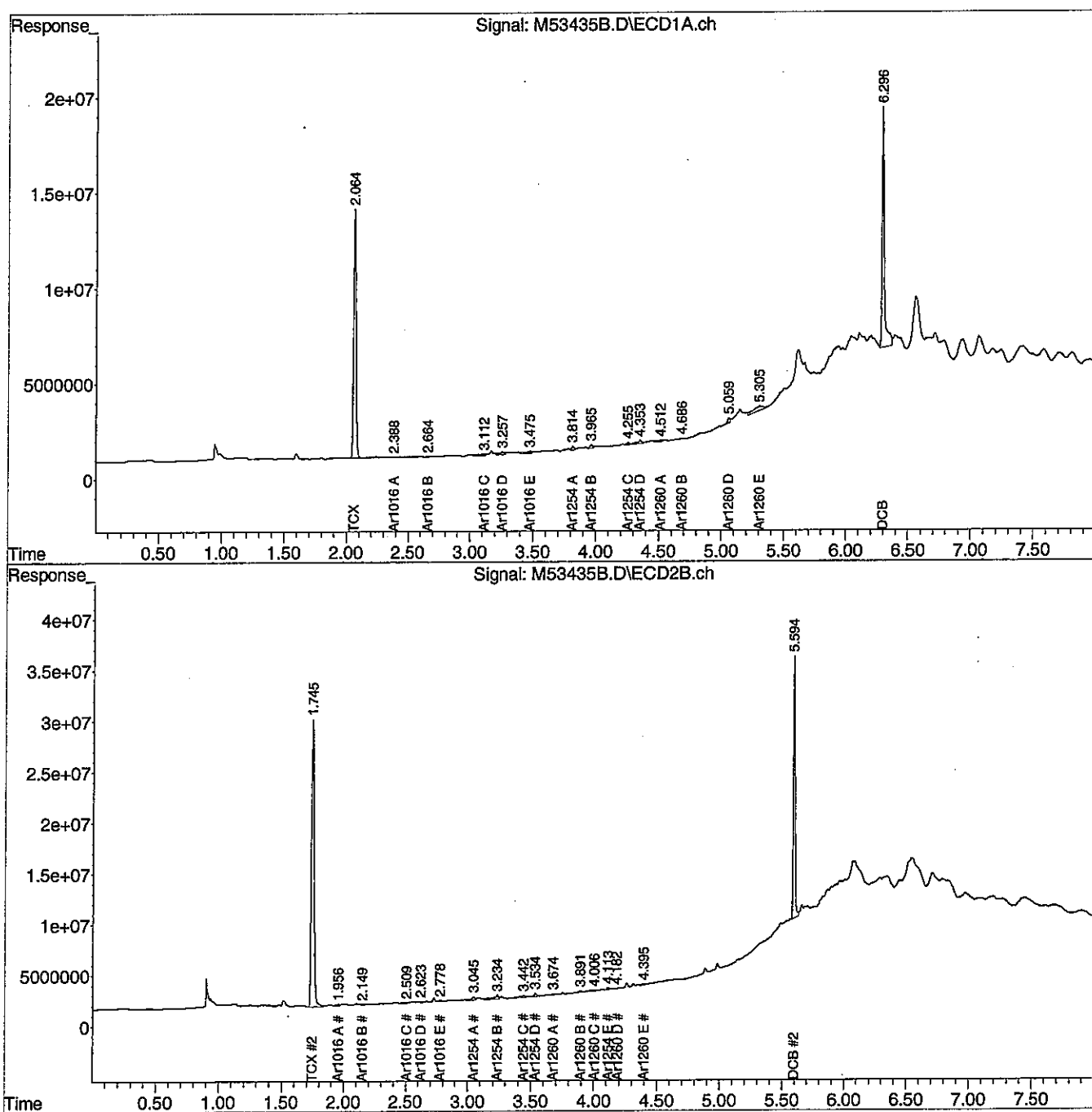
**COMMENTS:** Results are expressed on a dry weight basis.



Data Path : C:\msdchem\1\DATA\011112-M\  
Data File : M53435B.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 11 Jan 2012 10:38 am  
Operator : JK  
Sample : B010912PSOX,,A/C  
Misc : SOIL  
ALS Vial : 15 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Jan 11 15:05:55 2012  
Quant Method : C:\msdchem\1\METHODS\PCB011012.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Tue Jan 10 21:12:58 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

January 11, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTE-CBA-S-2024

**Lab Sample ID:** 71931-1  
**Matrix:** Solid  
**Percent Solid:** 99  
**Dilution Factor:** 10  
**Collection Date:** 01/04/12  
**Lab Receipt Date:** 01/04/12  
**Extraction Date:** 01/05/12  
**Analysis Date:** 01/11/12

**PCB ANALYTICAL RESULTS**

| COMPOUND   | Quantitation<br>Limit $\mu\text{g/kg}$ | Results<br>$\mu\text{g/kg}$ |
|--|--|-----------------------------|
| PCB-1016   | 330                                    | U                           |
| PCB-1221   | 330                                    | U                           |
| PCB-1232   | 330                                    | U                           |
| PCB-1242   | 330                                    | U                           |
| PCB-1248   | 330                                    | U                           |
| PCB-1254   | 330                                    | 3140                        |
| PCB-1260   | 330                                    | U                           |
| PCB-1262   | 330                                    | U                           |
| PCB-1268   | 330                                    | U                           |
| <b>Surrogate Standard Recovery</b>                                       |  |                             |
| 2,4,5,6-Tetrachloro-m-xylene   | 95                                     | %                           |
| Decachlorobiphenyl   | 90                                     | %                           |
| U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank |  |                             |

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

|                                   |                           |
|-----------------------------------|---------------------------|
| Instrument ID: M                  | SDG: 71931                |
| GC Column #1: STX-CLPesticides I  | Sample: 71931-1,1:10,,A/C |
| Column ID: 0.25 mm                | Data File: M53436.D       |
| GC Column #2: STX-CLPesticides II | Dilution Factor: 9.8      |
| Column ID: 0.25 mm                |                           |

| COMPOUND | Column #1             | Column #2             | RPD |  | # |
|----------|-----------------------|-----------------------|-----|--|---|
|          | SAMPLE RESULT (ug/kg) | SAMPLE RESULT (ug/kg) |     |  |   |
| PCB 1254 | 3138                  | 2958                  | 5.9 |  |   |

# Column to be used to flag RPD values greater than QC limit of 40%

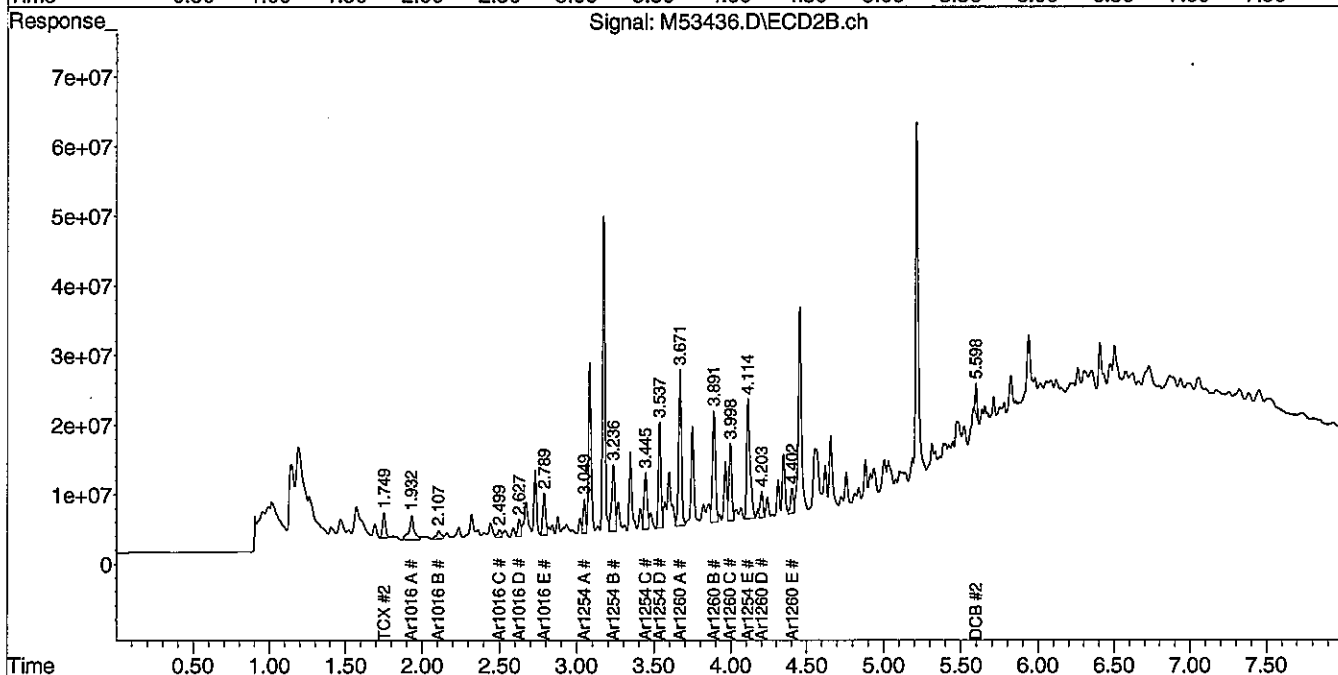
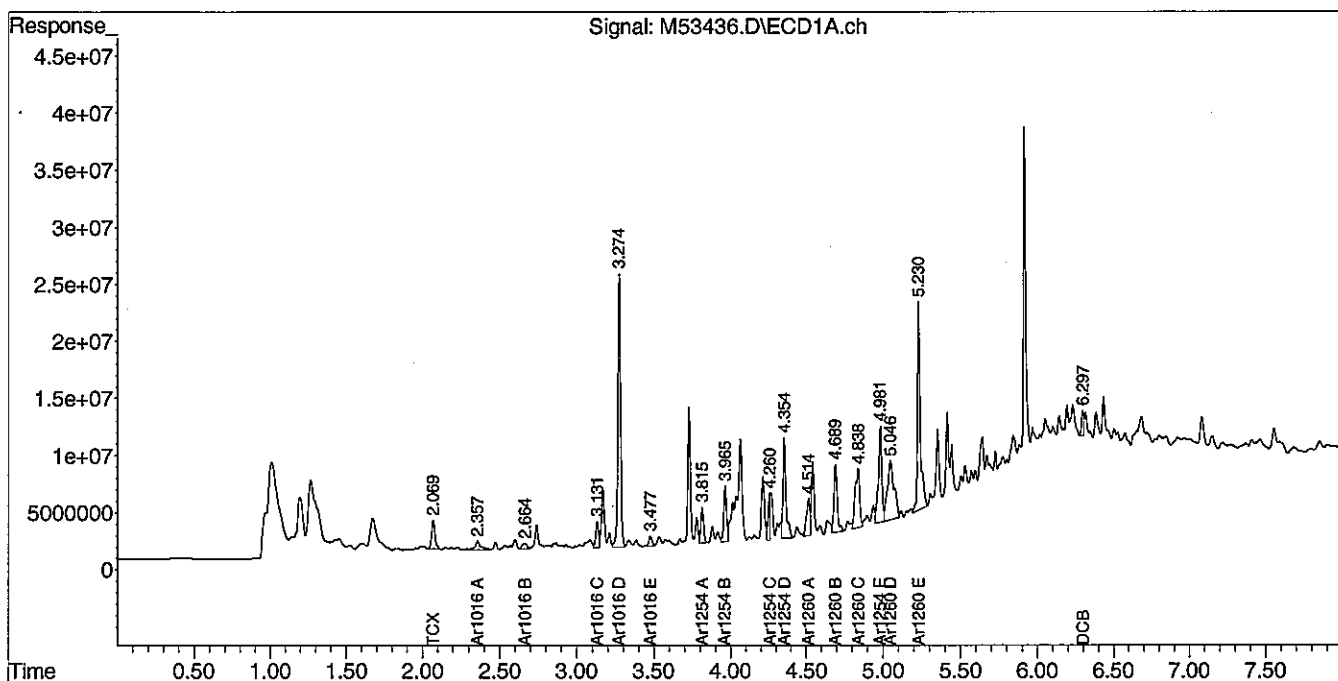
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\011112-M\  
Data File : M53436.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 11 Jan 2012 10:48 am  
Operator : JK  
Sample : 71931-1,1:10,,A/C  
Misc : SOIL  
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Jan 11 15:20:28 2012  
Quant Method : C:\msdchem\1\METHODS\PCB011012.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Tue Jan 10 21:12:58 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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January 11, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTF-CBA-N-2025

**Lab Sample ID:** 71931-2  
**Matrix:** Solid  
**Percent Solid:** 100  
**Dilution Factor:** 10  
**Collection Date:** 01/04/12  
**Lab Receipt Date:** 01/04/12  
**Extraction Date:** 01/05/12  
**Analysis Date:** 01/11/12

**PCB ANALYTICAL RESULTS**

| COMPOUND   | Quantitation<br>Limit $\mu\text{g/kg}$ | Results<br>$\mu\text{g/kg}$ |
|--|--|-----------------------------|
| PCB-1016   | 330                                    | U                           |
| PCB-1221   | 330                                    | U                           |
| PCB-1232   | 330                                    | U                           |
| PCB-1242   | 330                                    | U                           |
| PCB-1248   | 330                                    | U                           |
| PCB-1254   | 330                                    | 3240                        |
| PCB-1260   | 330                                    | U                           |
| PCB-1262   | 330                                    | U                           |
| PCB-1268   | 330                                    | U                           |
| <b>Surrogate Standard Recovery</b>                                       |  |                             |
| 2,4,5,6-Tetrachloro-m-xylene   | 127                                    | %                           |
| Decachlorobiphenyl   | 94                                     | %                           |
| U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank |  |                             |

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.

PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M  
GC Column #1: STX-CLPesticides I  
Column ID: 0.25 mm  
GC Column #2: STX-CLPesticides II  
Column ID: 0.25 mm

SDG: 71931  
Sample: 71931-2,1:10,,A/C  
Data File: M53437.D  
Dilution Factor: 10.0

| COMPOUND | Column #1             | Column #2             | RPD |  | # |
|----------|-----------------------|-----------------------|-----|--|---|
|          | SAMPLE RESULT (ug/kg) | SAMPLE RESULT (ug/kg) |     |  |   |
| PCB 1254 | 3243                  | 2964                  | 9.0 |  |   |

# Column to be used to flag RPD values greater than QC limit of 40%

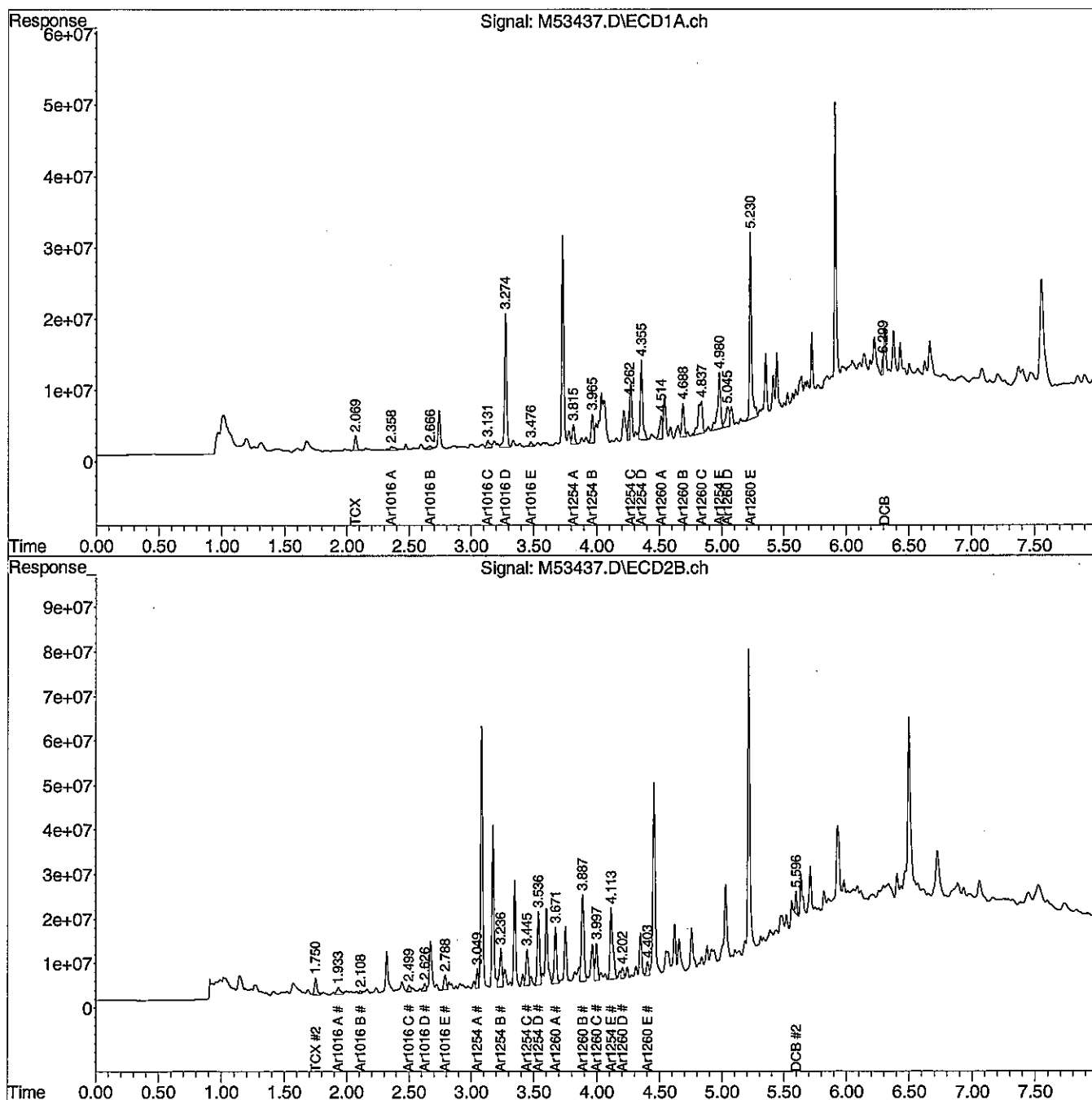
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\011112-M\  
Data File : M53437.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 11 Jan 2012 10:58 am  
Operator : JK  
Sample : 71931-2,1:10,,A/C  
Misc : SOIL  
ALS Vial : 10 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Jan 11 15:21:56 2012  
Quant Method : C:\msdchem\1\METHODS\PCB011012.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Tue Jan 10 21:12:58 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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January 11, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**

---

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTC-CBA-E-2026

**Lab Sample ID:** 71931-3  
**Matrix:** Solid  
**Percent Solid:** 100  
**Dilution Factor:** 10  
**Collection Date:** 01/04/12  
**Lab Receipt Date:** 01/04/12  
**Extraction Date:** 01/05/12  
**Analysis Date:** 01/11/12

**PCB ANALYTICAL RESULTS**

| COMPOUND   | Quantitation<br>Limit $\mu\text{g/kg}$ | Results<br>$\mu\text{g/kg}$ |
|--|--|-----------------------------|
| PCB-1016   | 330                                    | U                           |
| PCB-1221   | 330                                    | U                           |
| PCB-1232   | 330                                    | U                           |
| PCB-1242   | 330                                    | U                           |
| PCB-1248   | 330                                    | U                           |
| PCB-1254   | 330                                    | <b>2740</b>                 |
| PCB-1260   | 330                                    | U                           |
| PCB-1262   | 330                                    | U                           |
| PCB-1268   | 330                                    | U                           |
| <b>Surrogate Standard Recovery</b>                                       |  |                             |
| 2,4,5,6-Tetrachloro-m-xylene   | 82                                     | %                           |
| Decachlorobiphenyl   | 78                                     | %                           |
| U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank |  |                             |

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.

PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

|                                   |                           |
|-----------------------------------|---------------------------|
| Instrument ID: M                  | SDG: 71931                |
| GC Column #1: STX-CLPesticides I  | Sample: 71931-3,1:10,,A/C |
| Column ID: 0.25 mm                | Data File: M53438.D       |
| GC Column #2: STX-CLPesticides II | Dilution Factor: 10.0     |
| Column ID: 0.25 mm                |                           |

| Column #1 |                       | Column #2             |     |   |
|-----------|-----------------------|-----------------------|-----|---|
| COMPOUND  | SAMPLE RESULT (ug/kg) | SAMPLE RESULT (ug/kg) | RPD | # |
| PCB 1254  | 2602                  | 2740                  | 5.2 |   |

# Column to be used to flag RPD values greater than QC limit of 40%

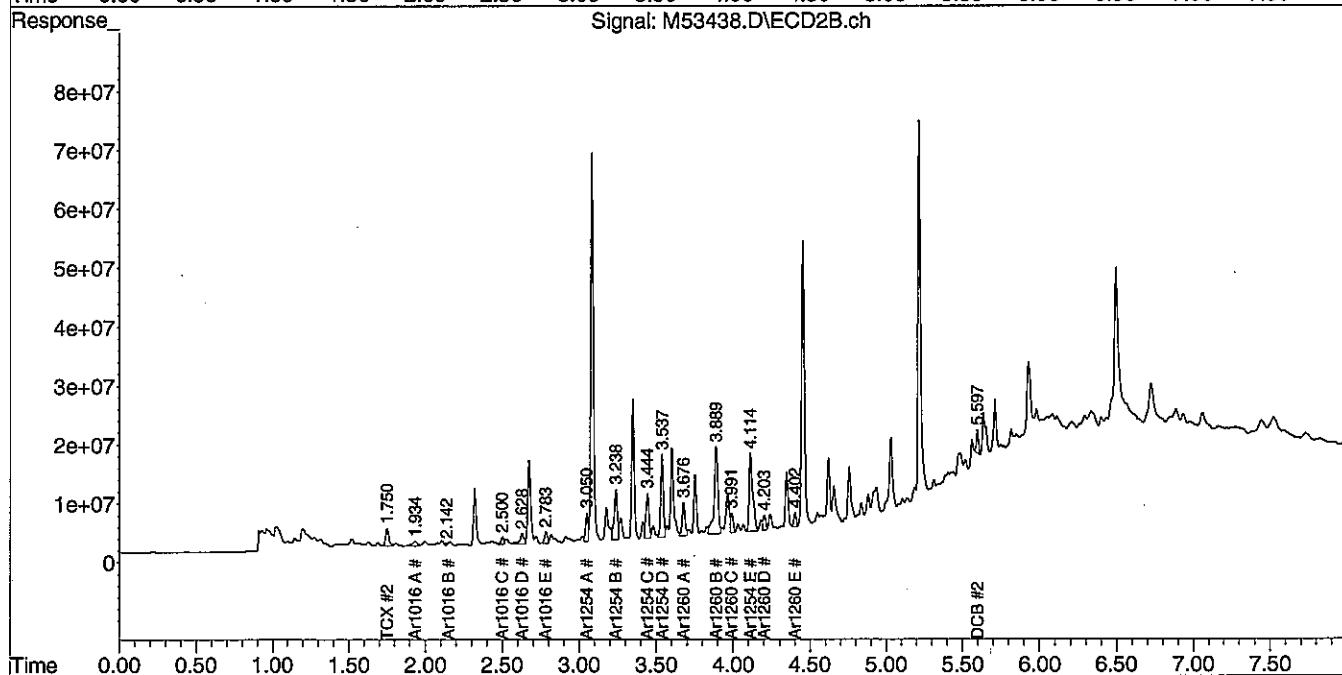
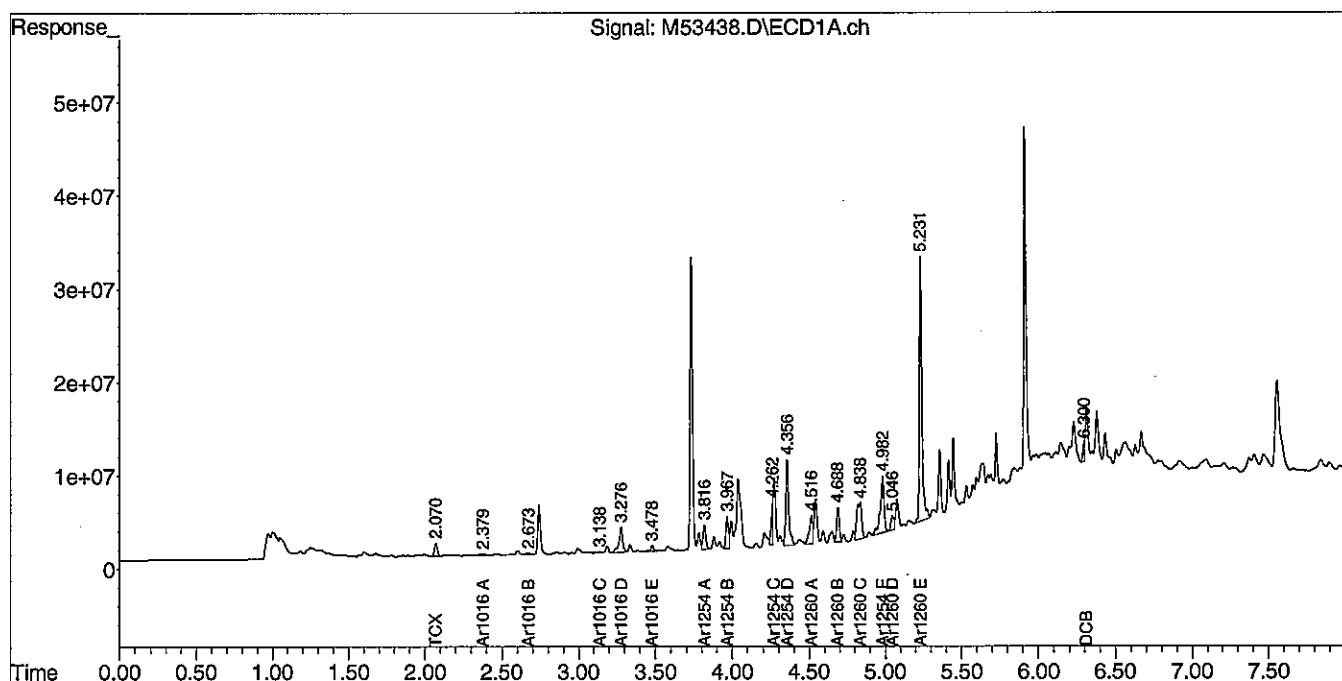
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\011112-M\  
Data File : M53438.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 11 Jan 2012 11:08 am  
Operator : JK  
Sample : 71931-3,1:10,,A/C  
Misc : SOIL  
ALS Vial : 11 Sample Multiplier: 1

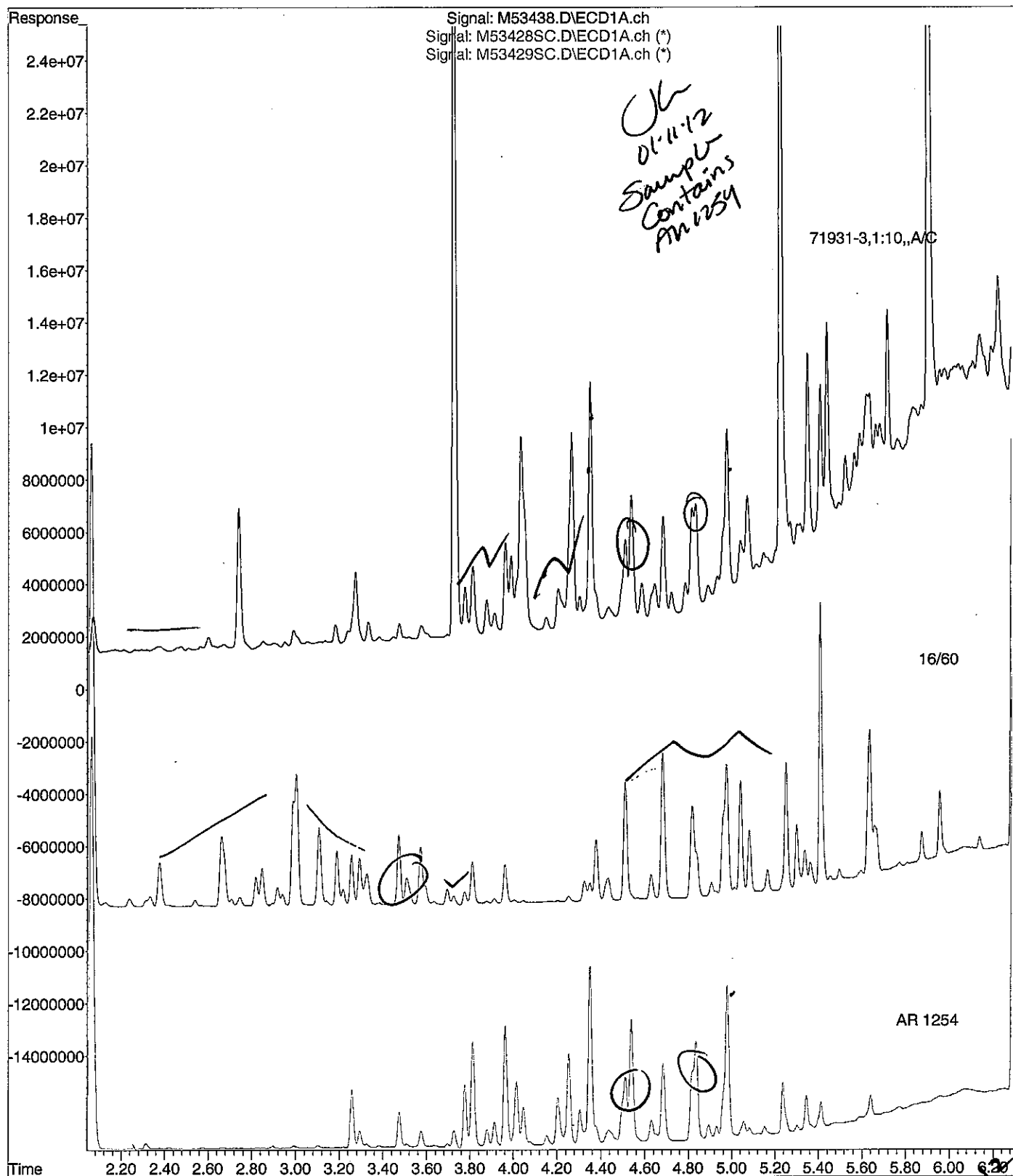
Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Jan 11 15:23:14 2012  
Quant Method : C:\msdchem\1\METHODS\PCB011012.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Tue Jan 10 21:12:58 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um





File :C:\msdchem\1\DATA\011112-M\M53438.D  
Operator : JK  
Acquired : 11 Jan 2012 11:08 am using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 71931-3,1:10,,A/C  
Misc Info : SOIL  
Vial Number: 11



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**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace

**Project Number:** 210980

**Field Sample ID:** PTB-CBA-W-2027

**Lab Sample ID:** 71931-4

**Matrix:** Solid

**Percent Solid:** 100

**Dilution Factor:** 10

**Collection Date:** 01/04/12

**Lab Receipt Date:** 01/04/12

**Extraction Date:** 01/05/12

**Analysis Date:** 01/11/12

**PCB ANALYTICAL RESULTS**

| COMPOUND   | Quantitation<br>Limit µg/kg | Results<br>µg/kg |
|--|-----------------------------|------------------|
| PCB-1016   | 330                         | U                |
| PCB-1221   | 330                         | U                |
| PCB-1232   | 330                         | U                |
| PCB-1242   | 330                         | U                |
| PCB-1248   | 330                         | U                |
| PCB-1254   | 330                         | 2140             |
| PCB-1260   | 330                         | U                |
| PCB-1262   | 330                         | U                |
| PCB-1268   | 330                         | U                |
| <b>Surrogate Standard Recovery</b>                                       |                             |                  |
| 2,4,5,6-Tetrachloro-m-xylene   | 79                          | %                |
| Decachlorobiphenyl   | 64                          | %                |
| U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank |                             |                  |

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.

PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M

SDG: 71931

GC Column #1: STX-CLPesticides I

Sample: 71931-4,1:10,,A/C

Column ID: 0.25 mm

Data File: M53439.D

GC Column #2: STX-CLPesticides II

Dilution Factor: 10.0

Column ID: 0.25 mm

| Column #1 |                       | Column #2             |     |   |
|-----------|-----------------------|-----------------------|-----|---|
| COMPOUND  | SAMPLE RESULT (ug/kg) | SAMPLE RESULT (ug/kg) | RPD | # |
| PCB 1254  | 2141                  | 2114                  | 1.3 |   |

# Column to be used to flag RPD values greater than QC limit of 40%

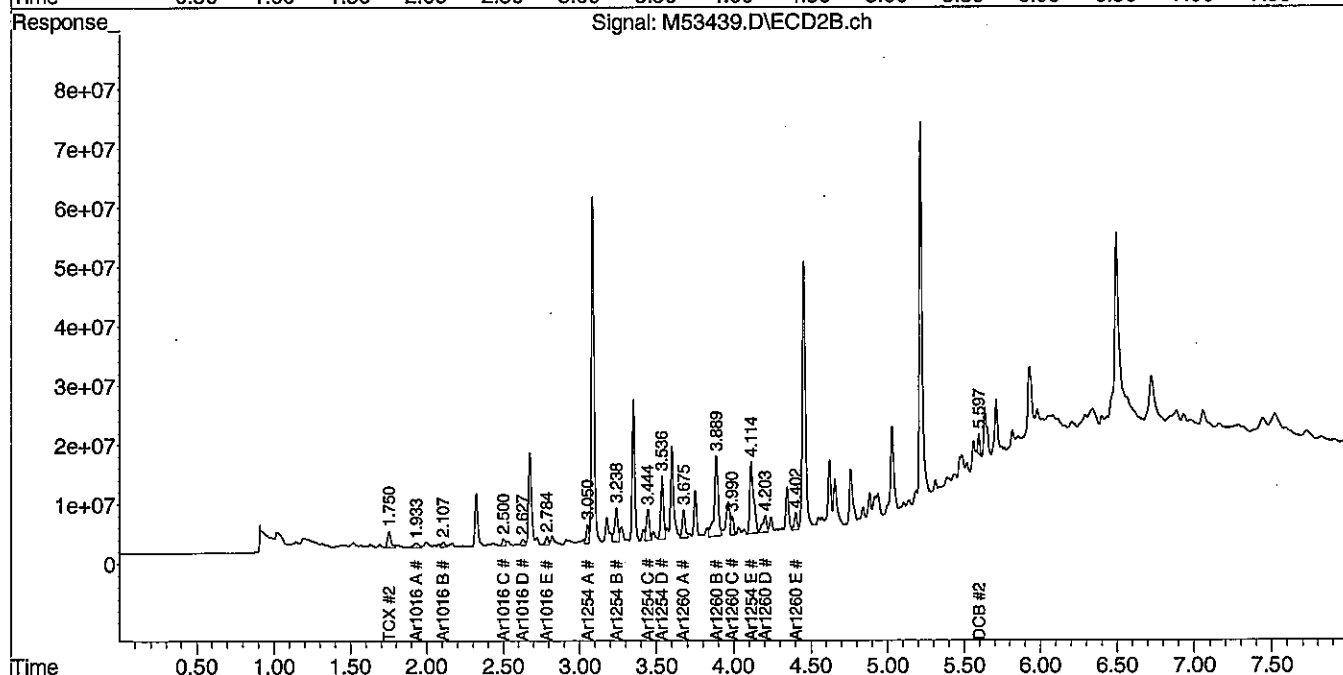
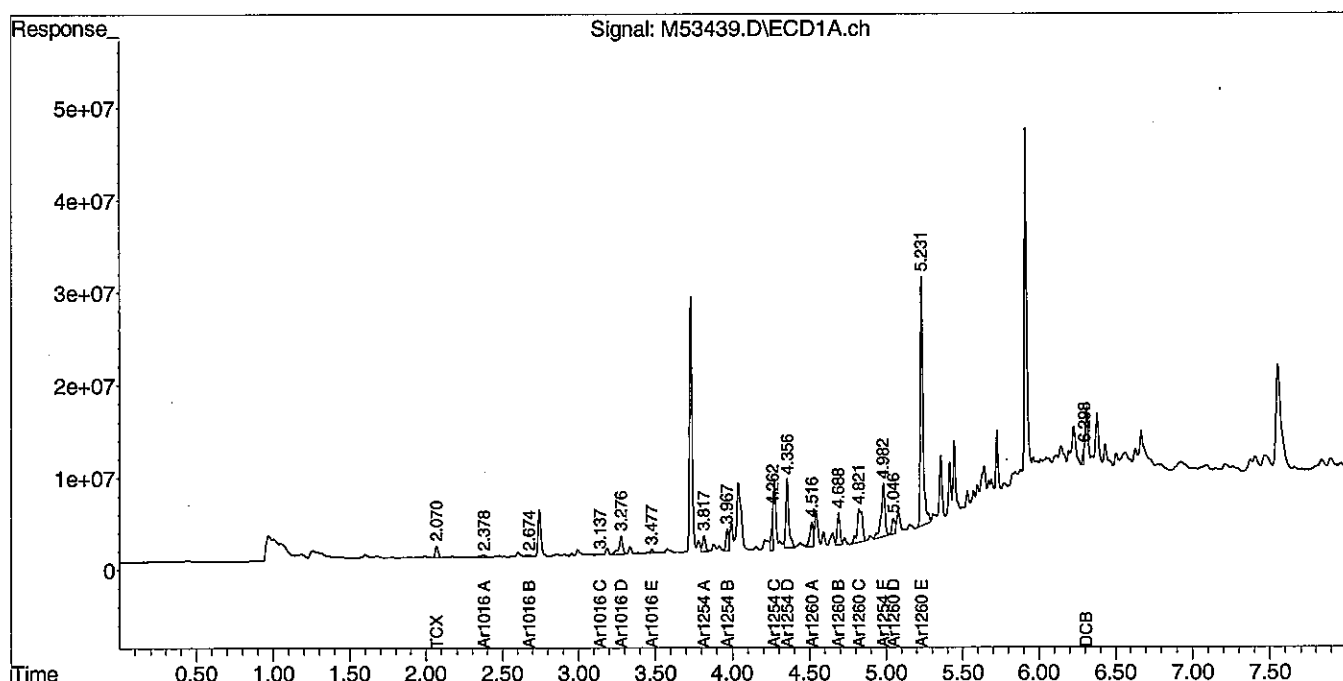
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\011112-M\  
Data File : M53439.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 11 Jan 2012 11:18 am  
Operator : JK  
Sample : 71931-4,1:10,,A/C  
Misc : SOIL  
ALS Vial : 12 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Jan 11 15:24:21 2012  
Quant Method : C:\msdchem\1\METHODS\PCB011012.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Tue Jan 10 21:12:58 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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January 11, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBA-W-2028

**Lab Sample ID:** 71931-5  
**Matrix:** Solid  
**Percent Solid:** 98  
**Dilution Factor:** 10  
**Collection Date:** 01/04/12  
**Lab Receipt Date:** 01/04/12  
**Extraction Date:** 01/05/12  
**Analysis Date:** 01/11/12

**PCB ANALYTICAL RESULTS**

| COMPOUND   | Quantitation<br>Limit $\mu\text{g/kg}$ | Results<br>$\mu\text{g/kg}$ |
|--|--|-----------------------------|
| PCB-1016   | 330                                    | U                           |
| PCB-1221   | 330                                    | U                           |
| PCB-1232   | 330                                    | U                           |
| PCB-1242   | 330                                    | U                           |
| PCB-1248   | 330                                    | U                           |
| PCB-1254   | 330                                    | <b>4760</b>                 |
| PCB-1260   | 330                                    | U                           |
| PCB-1262   | 330                                    | U                           |
| PCB-1268   | 330                                    | U                           |
| <b><u>Surrogate Standard Recovery</u></b>                                |  |                             |
| 2,4,5,6-Tetrachloro-m-xylene   | 106                                    | %                           |
| Decachlorobiphenyl   | 106                                    | %                           |
| U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank |  |                             |

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.

PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M

SDG: 71931

GC Column #1: STX-CLPesticides I

Sample: 71931-5,1:10,,A/C

Column ID: 0.25 mm

Data File: M53440.D

GC Column #2: STX-CLPesticides II

Dilution Factor: 10.1

Column ID: 0.25 mm

| Column #1 |                       | Column #2             |      |   |
|-----------|-----------------------|-----------------------|------|---|
| COMPOUND  | SAMPLE RESULT (ug/kg) | SAMPLE RESULT (ug/kg) | RPD  | # |
| PCB 1254  | 4763                  | 3681                  | 25.6 |   |

# Column to be used to flag RPD values greater than QC limit of 40%

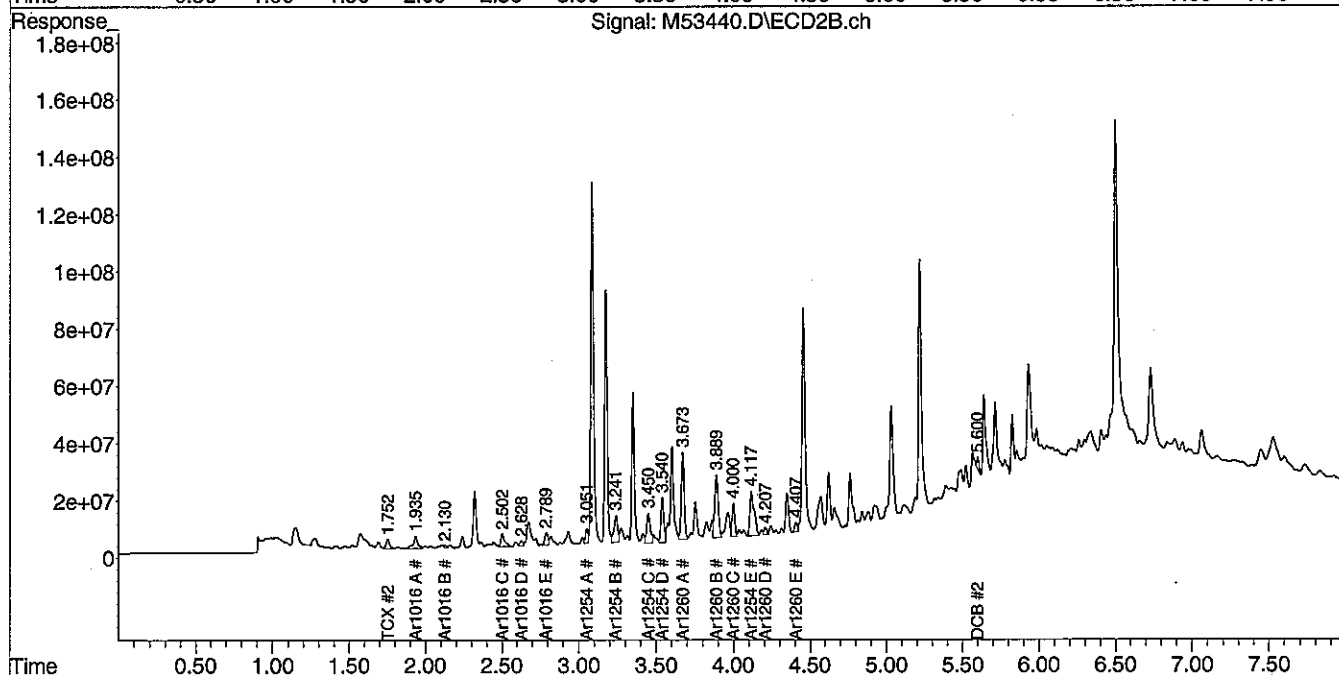
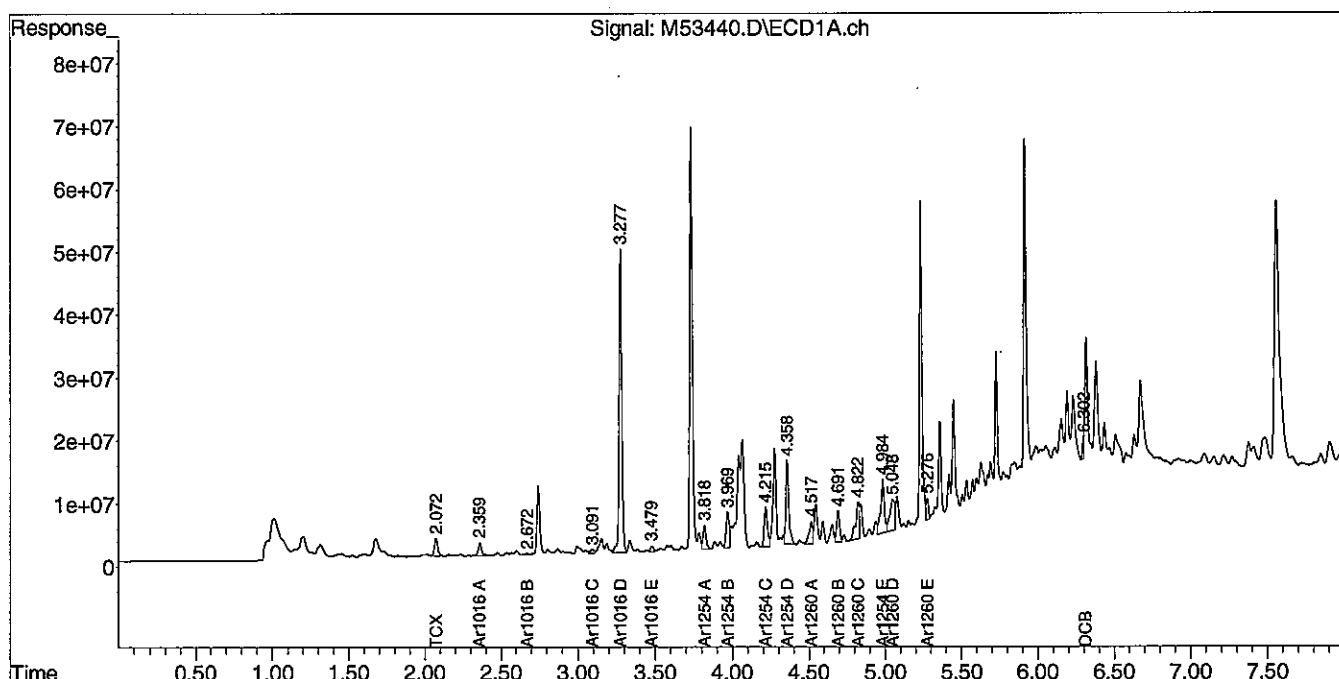
\* Values outside QC limits

Comments: \_\_\_\_\_

Data Path : C:\msdchem\1\DATA\011112-M\  
 Data File : M53440.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 11 Jan 2012 11:28 am  
 Operator : JK  
 Sample : 71931-5,1:10,,A/C  
 Misc : SOIL  
 ALS Vial : 13 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Jan 11 15:26:00 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB011012.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Tue Jan 10 21:12:58 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



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January 11, 2012

**SAMPLE DATA**
**CLIENT SAMPLE ID**

**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTD-CBA-E-2029

**Lab Sample ID:** 71931-6  
**Matrix:** Solid  
**Percent Solid:** 98  
**Dilution Factor:** 10  
**Collection Date:** 01/04/12  
**Lab Receipt Date:** 01/04/12  
**Extraction Date:** 01/05/12  
**Analysis Date:** 01/11/12

**PCB ANALYTICAL RESULTS**

| COMPOUND   | Quantitation<br>Limit $\mu\text{g/kg}$ | Results<br>$\mu\text{g/kg}$ |
|--|--|-----------------------------|
| PCB-1016   | 330                                    | U                           |
| PCB-1221   | 330                                    | U                           |
| PCB-1232   | 330                                    | U                           |
| PCB-1242   | 330                                    | U                           |
| PCB-1248   | 330                                    | U                           |
| PCB-1254   | 330                                    | 2370                        |
| PCB-1260   | 330                                    | U                           |
| PCB-1262   | 330                                    | U                           |
| PCB-1268   | 330                                    | U                           |
| <b>Surrogate Standard Recovery</b>                                       |  |                             |
| 2,4,5,6-Tetrachloro-m-xylene   | 122                                    | %                           |
| Decachlorobiphenyl   | 90                                     | %                           |
| U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank |  |                             |

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:** Results are expressed on a dry weight basis.



PCB  
COLUMN RELATIVE PERCENT DIFFERENCE

Instrument ID: M

SDG: 71931

GC Column #1: STX-CLPesticides I

Sample: 71931-6,1:10,,A/C

Column ID: 0.25 mm

Data File: M53441.D

GC Column #2: STX-CLPesticides II

Dilution Factor: 10.1

Column ID: 0.25 mm

| COMPOUND | Column #1             | Column #2             | RPD |  | # |
|----------|-----------------------|-----------------------|-----|--|---|
|          | SAMPLE RESULT (ug/kg) | SAMPLE RESULT (ug/kg) |     |  |   |
| PCB 1254 | 2374                  | 2355                  | 0.8 |  |   |

# Column to be used to flag RPD values greater than QC limit of 40%

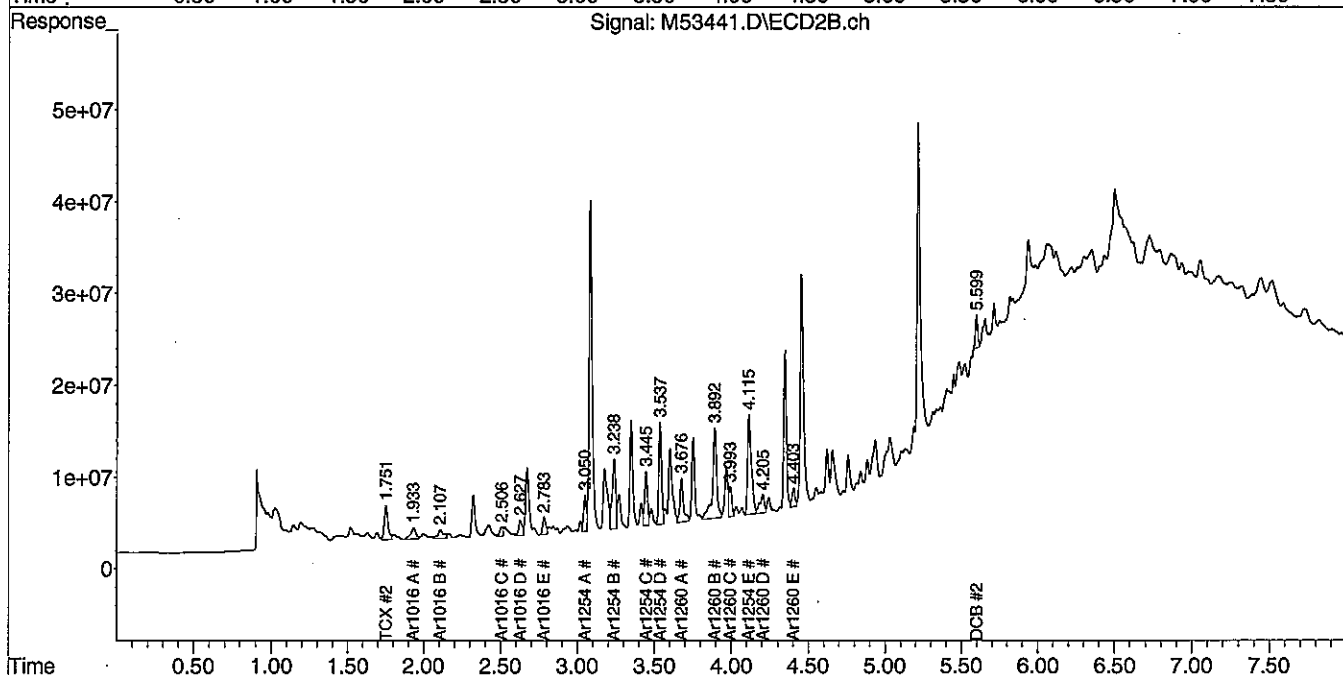
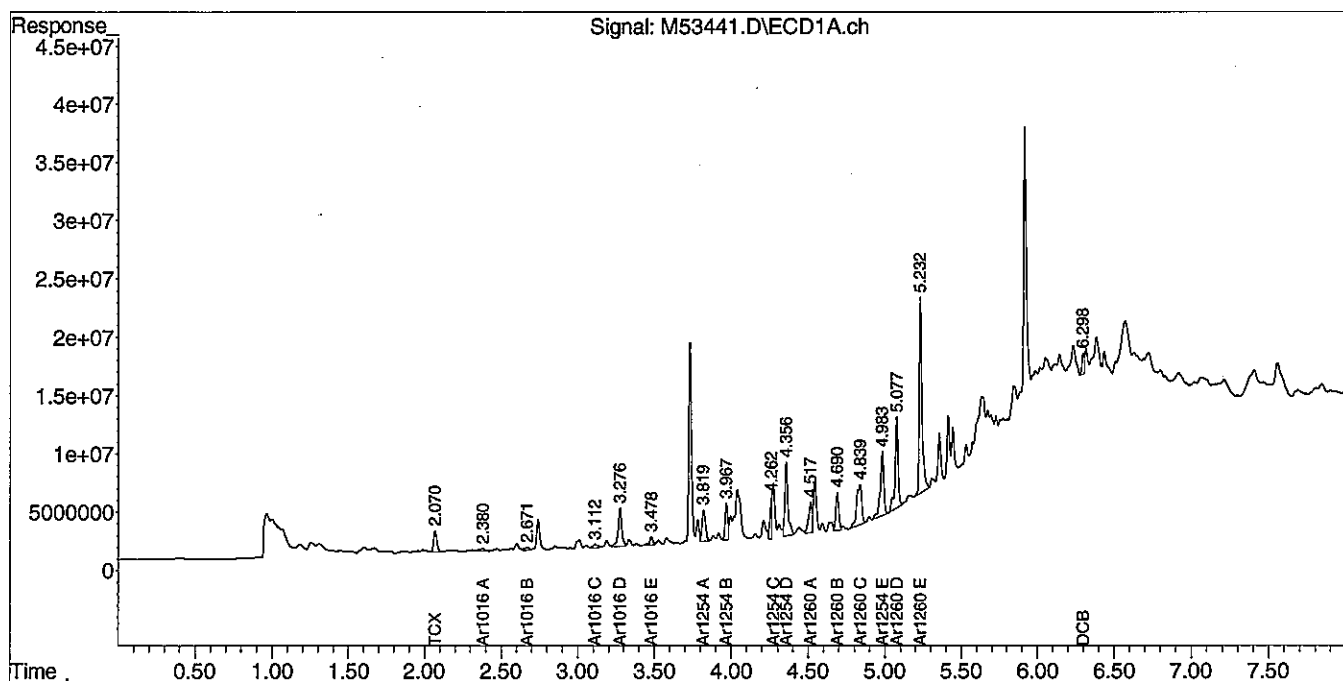
\* Values outside QC limits

Comments: \_\_\_\_\_

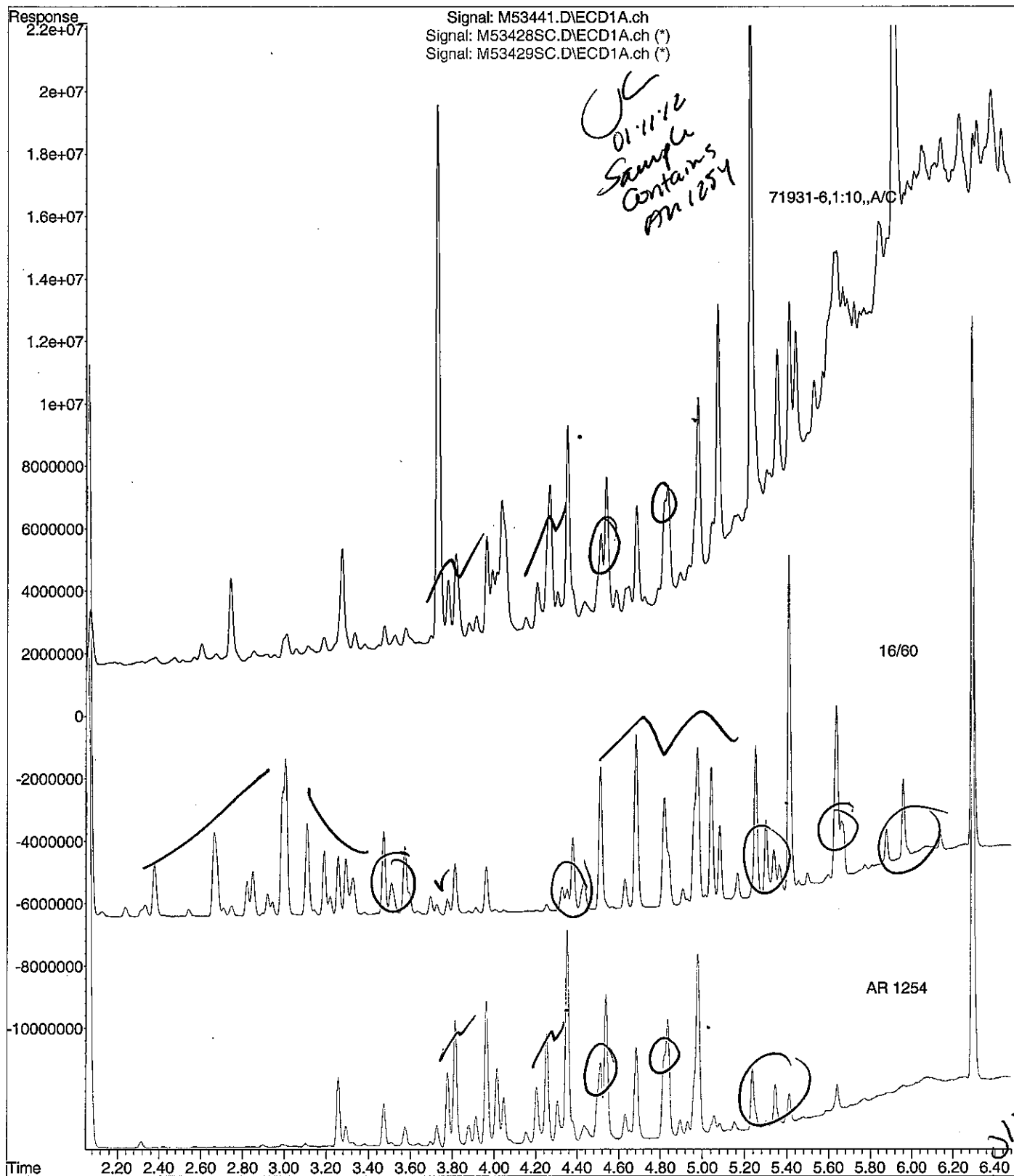
Data Path : C:\msdchem\1\DATA\011112-M\  
 Data File : M53441.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 11 Jan 2012 11:38 am  
 Operator : JK  
 Sample : 71931-6,1:10,,A/C  
 Misc : SOIL  
 ALS Vial : 14 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Jan 11 15:27:55 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB011012.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Tue Jan 10 21:12:58 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



File :C:\msdchem\1\DATA\011112-M\M53441.D  
Operator : JK  
Acquired : 11 Jan 2012 11:38 am using AcqMethod PCB.M  
Instrument : Instrument M  
Sample Name: 71931-6,1:10,,A/C  
Misc Info : SOIL  
Vial Number: 14



PCB  
QC FORMS



PCB SOIL  
LABORATORY CONTROL SAMPLE/DUPLICATE  
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 71931

Non-spiked sample: B010512PSOX,RR,,A/C

Spike: L010512PSOX,RR,,A/C

Spike duplicate: LD010512PSOX,RR,,A/C

|             | LCS SPIKE     | LCSD SPIKE    | LOWER | UPPER | RPD   | NON-SPIKE      | SPIKE          | SPIKE |   | SPIKE DUP      |       | SPIKE DUP |     |   |  |
|-------------|---------------|---------------|-------|-------|-------|----------------|----------------|-------|---|----------------|-------|-----------|-----|---|--|
| COMPOUND    | ADDED (ug/kg) | ADDED (ug/kg) | LIMIT | LIMIT | LIMIT | RESULT (ug/kg) | RESULT (ug/kg) | % REC | # | RESULT (ug/kg) | % REC | #         | RPD | # |  |
| PCB 1016    | 200           | 200           | 65    | 140   | 30    | 0              | 186            | 93    |   | 188            | 94    |           | 1.1 |   |  |
| PCB 1260    | 200           | 200           | 60    | 130   | 30    | 0              | 180            | 90    |   | 183            | 91    |           | 1.6 |   |  |
| PCB 1016 #2 | 200           | 200           | 65    | 140   | 30    | 0              | 183            | 92    |   | 186            | 93    |           | 1.7 |   |  |
| PCB 1260 #2 | 200           | 200           | 60    | 130   | 30    | 0              | 218            | 109   |   | 221            | 110   |           | 1.3 |   |  |

# Column to be used to flag recovery and RPD values outside of QC limits

\* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: \_\_\_\_\_  
\_\_\_\_\_

## CHAIN OF CUSTODIES

# Chain Of Custody Form

|  |  |   |  |  |  |
|--|--|---|--|--|--|
| <b>environmental</b><br><b>laboratory LLC</b>  |  | 185 Commerce Way Suite E<br>Portsmouth, NH 03801<br>Phone (603) 436-5111<br>Fax (603) 430-2151  |  | <b>For Analytics Use Only Rev. 4 03/28/08</b>  |  |
| Project# 210980 Proj. Name: <u>Peabody Terrace</u><br>Company: <u>Woodard &amp; Curran</u><br>Contact: <u>Amy Wallace</u><br>Address: <u>41 Hutchins Drive</u><br><u>Portland Maine</u><br>Phone: <u>207-774-2112</u> PO# <u>        </u> Quote # <u>        </u><br>Sampler (Signature): <u>[Signature]</u> |  | Matrix Key:<br>C = Concrete<br>WP = Waste<br>WW = Wastewater<br>SW = Surface Water<br>GW = Groundwater<br>DW = Drinking Water<br>S = Soil/Sludge<br>O = Oil<br>E = Extract<br>X = Other |  | Samples were:<br>1) Shipped or hand-delivered<br>2) Temp blank °C <u>22.8</u><br>3) Received in good condition <u>Y</u> or <u>N</u><br>4) pH checked by: <u>N/A</u><br>5) Labels checked by: <u>2/14/12</u>  |  |
| Station Identification<br>RTE-CBA-S-2024 1/14/12 0910<br>RTE-CBA-N-2025 0920<br>RTE-CBA-E-2026 0930<br>RTE-CBA-W-2027 0940<br>RTE-CBA-W-2028 0950<br>RTE-CBA-E-2029 11/12 1000   |  | Analysis<br><u>PCBs</u><br><u>PCBs</u><br><u>PCBs</u><br><u>PCBs</u><br><u>PCBs</u>   |  | Container Key<br>P=plastic G=glass<br>Container number typ<br>Matrix <u>WP</u><br>Other <u>WP</u><br>Methanol <u>WP</u><br>HCL <u>WP</u><br>H <sub>2</sub> O <u>WP</u><br>H <sub>2</sub> SO <sub>4</sub> <u>WP</u><br>HNO <sub>3</sub> <u>WP</u><br>Empres <u>WP</u>   |  |
| Date: <u>1/14/12</u><br>Time: <u>1420</u>  |  | Date: <u>1/14/12</u><br>Time: <u>1420</u>   |  | Date: <u>1/14/12</u><br>Time: <u>1420</u>  |  |
| Received By: <u>[Signature]</u>  |  | Received By: <u>[Signature]</u>   |  | Received By: <u>[Signature]</u>  |  |
| Email Results to:<br><u>awallace@woodardcurran.com</u><br><u>awallace@woodardcurran.com</u><br><u>awallace@woodardcurran.com</u>   |  | Comments / Instructions:<br><u>PCBs 8082 Soxhlet</u>  |  | Project Requirements:<br>Report Type: <input checked="" type="checkbox"/> MCP <input type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> Level IV <input type="checkbox"/> Standard<br>State: <input type="checkbox"/> NH <input checked="" type="checkbox"/> MA <input type="checkbox"/> ME <input type="checkbox"/> CT <input type="checkbox"/> RI<br>State Standard: <u>        </u><br>(eg. S-1 or GW-1)<br>EDD Required: <u>Y</u> or <u>N</u><br>Type: <u>6/5 Key</u><br>Page <u>1</u> of <u>1</u> |  |
| Turnaround Request<br>Standard <input checked="" type="checkbox"/> Priority <input type="checkbox"/><br>Due Date <u>5 day</u>  |  | Lab Approval Required<br><u>[Signature]</u>   |  | *Fee may apply   |  |



ANALYTICS SAMPLE RECEIPT CHECKLIST

AEL LAB#: 71931  
 CLIENT: Woodward + Curran  
 PROJECT: Peabody Terrace

COOLER NUMBER: 210  
 NUMBER OF COOLERS: 1

**A: PRELIMINARY EXAMINATION:**

1. Cooler received by(initials): DW DATE COOLER RECEIVED/OPENED: 1.4.12

2. Circle one: Hand delivered Shipped  
 (If so, skip 3)

3. Did cooler come with a shipping slip? Y N/A

3a. Enter carrier name and airbill number here: \_\_\_\_\_

4. Were custody seals on the outside of cooler? Y N/A  
 How many & where: \_\_\_\_\_ Seal Date: \_\_\_\_\_ Seal Name: \_\_\_\_\_

5. Did the custody seals arrive unbroken and intact upon arrival? Y N/A

6. COC#: N/A

7. Were Custody papers filled out properly (ink, signed, legible, project information etc)? Y N

8. Were custody papers sealed in a plastic bag? Y N

9. Did you sign the COC in the appropriate place? Y N

10. Was enough ice used to chill the cooler? Y N Temp. of cooler: 2.8 °C

B. Log-In: Date samples were logged in: 1.4.12 By: lmt

11. Were all bottles sealed in separate plastic bags? Y N

12. Did all bottles arrive unbroken and were labels in good condition? Y N

13. Were all bottle labels complete(ID, Date, time, etc.) Y N

14. Did all bottle labels agree with custody papers? Y N

15. Were the correct containers used for the tests indicated: Y N

16. Were samples received at the correct pH? Y N/A

17. Was sufficient amount of sample sent for the tests indicated? Y N

18. Were all samples submitted within holding time? Y N

19. Were bubbles absent in VOA samples? Y N\* / A

If NO, List Sample ID's, Lab #s, and the size of the bubble(s): \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_

\*When bubbles are present in VOA samples they are labelled from smallest (or no bubbles) to largest. Lab to analyze VOA samples with no bubbles or smallest bubbles first

20. Laboratory labeling verified by (initials): CP Date: 1/4/12

March 27, 2012

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**RE: Analytical Results Case Narrative  
Analytics # 72406  
Peabody Terrace Project No: 210980**

Dear Ms. Wallace;

Enclosed please find the analytical results for samples submitted for the above-mentioned project. The attached Cover Page lists the sample IDs, Lab tracking numbers and collection dates for the samples included in this deliverable.

Samples were analyzed for Polychlorinated Biphenyls (PCBs) by EPA Method 8082.

Unless otherwise noted in the Non-conformance Summary listed below, all of the quality control (QC) criteria including initial calibration, calibration verification, surrogate recovery, holding time and method accuracy/precision for these analyses were within acceptable limits.

This Level II data package has been assembled in the following order:

- Case Narrative/Non-Conformance Summary
- Sample Log Sheet - Cover Page
- MCP Cover Pages
- PCB Form 1 Data Sheet for Samples and Blanks
- Chromatograms
- PCB Form 10 Confirmation Results
- PCB Form 3 MS/MSD (LCS) Recoveries
- Chain of Custody (COC) Forms

## QC NON-CONFORMANCE SUMMARY

**Sample Receipt:**

No discrepancies.

**PCBs by EPA Method 8082:**

No results were reported below the quantitation limit.

If you have any questions on these results, please do not hesitate to contact me.

Sincerely,

ANALYTICS Environmental Laboratory, LLC

A handwritten signature in black ink, appearing to read "Stephen L. Knollmeyer".

Stephen L. Knollmeyer  
Laboratory Director

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

**Report Number: 72406**

**Revision: Rev. 0**

**Re: Peabody Terrace (Project No: 210980)**

Enclosed are the results of the analyses on your sample(s). Samples were received on 23 March 2012 and analyzed for the tests listed. Samples were received in acceptable condition, with the exceptions noted below or on the chain of custody. These results pertain to samples as received by the laboratory and for the analytical tests requested on the chain of custody. The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report. Please see individual reports for specific methodologies and references.

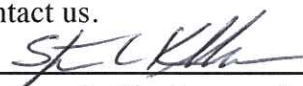
| <u>Lab Number</u> | <u>Sample Date</u> | <u>Station Location</u> | <u>Analysis</u>             | <u>Comments</u> |
|-------------------|--------------------|-------------------------|-----------------------------|-----------------|
| 72406-1           | 03/23/12           | PTF-VWA-N-2402          | Electronic Data Deliverable |                 |
|                   | 03/23/12           | PTF-VWA-N-2402          | EPA 8082 (PCBs only)        |                 |

**Sample Receipt Exceptions:** None

Analytics Environmental Laboratory is certified by the states of New Hampshire, Maine, Massachusetts, Connecticut, Rhode Island, Virginia, Maryland, and North Carolina, and is accredited by the Department of Defense (DOD) ELAP program. A list of actual certified parameters is available upon request.

If you have any questions on these results, please do not hesitate to contact us.

Authorized signature

  
Stephen L. Knollmeyer Lab. Director

Date

3/27/2012

**This report shall not be reproduced, except in full, without the written consent of Analytics Environmental Laboratory, LLC.**

### MassDEP Analytical Protocol Certification Form

Laboratory Name: Analytics Environmental Laboratory, LLC

Project #: 72406

Project Location: Peabody Terrace

RTN:

**This Form provides certifications for the following data set. Laboratory Sample ID Number(s):**

72406-1

Matrices: ☐ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☒ Other

**CAM Protocol** (check all that apply below):

|   |  |   |  |   |  |
|---|--|---|--|---|--|
| 8260 VOC<br>CAM II A <input type="checkbox"/>     | 7470/7471 Hg<br>CAM III B <input type="checkbox"/> | MassDEP VPH<br>CAM IV A <input type="checkbox"/>        | 8081 Pesticides<br>CAM V B <input type="checkbox"/>            | 7196 Hex Cr<br>CAM VI B <input type="checkbox"/>        | MassDEP APH<br>CAM IX A <input type="checkbox"/> |
| 8270 SVOC<br>CAM II B <input type="checkbox"/>    | 7010 Metals<br>CAM III C <input type="checkbox"/>  | MassDEP EPH<br>CAM IV B <input type="checkbox"/>        | 8151 Herbicides<br>CAM V C <input type="checkbox"/>            | 8330 Explosives<br>CAM VIII A <input type="checkbox"/>  | TO-15 VOC<br>CAM IX B <input type="checkbox"/>   |
| 6010 Metals<br>CAM III A <input type="checkbox"/> | 6020 Metals<br>CAM III D <input type="checkbox"/>  | 8082 PCB<br>CAM V A <input checked="" type="checkbox"/> | 9014 Total<br>Cyanide/PAC<br>CAM VI A <input type="checkbox"/> | 6860 Perchlorate<br>CAM VIII B <input type="checkbox"/> |  |

**Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status**

|          |  |  |
|----------|--|--|
| <b>A</b> | Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |
| <b>B</b> | Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |
| <b>C</b> | Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |
| <b>D</b> | Does the laboratory report comply with all reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |
| <b>E</b> | a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to individual method(s) for a list of significant modifications).<br>b. APH and TO-15 Methods only: Was the complete analyte list reported for each method? | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input type="checkbox"/> Yes <input type="checkbox"/> No |
| <b>F</b> | Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?  | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No  |

**Responses to Questions G, H and I below are required for "Presumptive Certainty" status**

|          |   |  |
|----------|---|--|
| <b>G</b> | Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup> |
|----------|---|--|

**Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40.1056 (2)(k) and WSC-07-350.**

|          |  |  |
|----------|--|--|
| <b>H</b> | Were ALL QC performance standards specified in the CAM protocol(s) achieved?                   | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup> |
| <b>I</b> | Were results reported for the complete analyte list specified in the selected CAM protocol(s)? | <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <sup>1</sup> |

<sup>1</sup> All negative responses must be addressed in an attached laboratory narrative.

**I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.**

Signature: Stephen L. Knollmeyer

Position: Laboratory Director

Printed Name: Stephen L. Knollmeyer

Date: March 27, 2012

**Surrogate Compound Limits**

|  | Matrix:<br>Units: | Aqueous<br>% Recovery | Solid<br>% Recovery | Method                      |
|--|-------------------|-----------------------|---------------------|-----------------------------|
| <b>Volatile Organic Compounds - Drinking Water</b> |                   |                       |                     |                             |
| 1,4-Difluorobenzene                                |                   | 70-130                |                     | EPA 524.2                   |
| Bromofluorobenzene                                 |                   | 70-130                |                     |                             |
| 1,2-Dichlorobenzene-d4                             |                   | 70-130                |                     |                             |
| <b>Volatile Organic Compounds</b>                  |                   |                       |                     |                             |
| 1,2-Dichloroethane-d4                              |                   | 70-120                | 70-120              | EPA 624/8260B               |
| Toluene-d8   |                   | 85-120                | 85-120              |                             |
| Bromofluorobenzene                                 |                   | 75-120                | 75-120              |                             |
| <b>Semi-Volatile Organic Compounds</b>             |                   |                       |                     |                             |
| 2-Fluorophenol                                     |                   | 20-110                | 35-105              | EPA 625/8270C               |
| d5-Phenol  |                   | 15-110                | 40-100              |                             |
| d5-nitrobenzene                                    |                   | 40-110                | 35-100              |                             |
| 2-Fluorobiphenyl                                   |                   | 50-110                | 45-105              |                             |
| 2,4,6-Tribromophenol                               |                   | 40-110                | 40-125              |                             |
| d14-p-terphenyl                                    |                   | 50-130                | 30-125              |                             |
| <b>PAH's by SIM</b>                                |                   |                       |                     |                             |
| d5-nitrobenzene                                    |                   | 21-110                | 35-110              | EPA 8270C                   |
| 2-Fluorobiphenyl                                   |                   | 36-121                | 45-105              |                             |
| d14-p-terphenyl                                    |                   | 33-141                | 30-125              |                             |
| <b>Pesticides and PCBs</b>                         |                   |                       |                     |                             |
| 2,4,5,6-Tetrachloro-m-xylene (TCX)                 |                   | 46-122                | 40-130              | EPA 608/8082                |
| Decachlorobiphenyl (DCB)                           |                   | 40-135                | 40-130              |                             |
| <b>Herbicides</b>                                  |                   |                       |                     |                             |
| Dichloroacetic acid (DCAA)                         |                   | 30-150                | 30-150              |                             |
| <b>Gasoline Range Organics/TPH Gasoline</b>        |                   |                       |                     |                             |
| Trifluorotoluene TFT (FID)                         |                   | 60-140                | 60-140              | MEDEP 4217/EPA 8015         |
| Bromofluorobenzene (BFB) (FID)                     |                   | 60-140                | 60-140              |                             |
| Trifluorotoluene TFT (PID)                         |                   | 60-140                | 60-140              |                             |
| Bromofluorobenzene (BFB) (PID)                     |                   | 60-140                | 60-140              |                             |
| <b>Diesel Range Organics/TPH Diesel</b>            |                   |                       |                     |                             |
| m-terphenyl  |                   | 60-140                | 60-140              | MEDEP 4125/EPA 8015/CT ETPH |
| <b>Volatile Petroleum Hydrocarbons</b>             |                   |                       |                     |                             |
| 2,5-Dibromotoluene (PID)                           |                   | 70-130                | 70-130              | MADEP VPH May 2004 Rev1.1   |
| 2,5-Dibromotoluene (FID)                           |                   | 70-130                | 70-130              |                             |
| <b>Extracatable Petroleum Hydrocarbons</b>         |                   |                       |                     |                             |
| 1-chloro-octadecane (aliphatic)                    |                   | 40-140                | 40-140              | MADEP EPH May 2004 Rev1.1   |
| o-Terphenyl (aromatic)                             |                   | 40-140                | 40-140              |                             |
| 2-Fluorobiphenyl (Fractionation)                   |                   | 40-140                | 40-140              |                             |
| 2-Bromonaphthalene (fractionation)                 |                   | 40-140                | 40-140              |                             |

## PCB DATA SUMMARIES

Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

March 27, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** Lab QC

**Lab Sample ID:** B032312PSOXW  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:**  
**Lab Receipt Date:**  
**Extraction Date:** 03/23/12  
**Analysis Date:** 03/26/12

**PCB ANALYTICAL RESULTS**

| COMPOUND   | Quantitation<br>Limit $\mu\text{g/wipe}$ | Results<br>$\mu\text{g/wipe}$ |
|--|--|-------------------------------|
| PCB-1016   | 0.5                                      | U                             |
| PCB-1221   | 0.5                                      | U                             |
| PCB-1232   | 0.5                                      | U                             |
| PCB-1242   | 0.5                                      | U                             |
| PCB-1248   | 0.5                                      | U                             |
| PCB-1254   | 0.5                                      | U                             |
| PCB-1260   | 0.5                                      | U                             |
| PCB-1262   | 0.5                                      | U                             |
| PCB-1268   | 0.5                                      | U                             |
| <b><u>Surrogate Standard Recovery</u></b>                                |  |                               |
| 2,4,5,6-Tetrachloro-m-xylene   | 82 %                                     |                               |
| Decachlorobiphenyl   | 57 %                                     |                               |
| U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank |  |                               |

**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

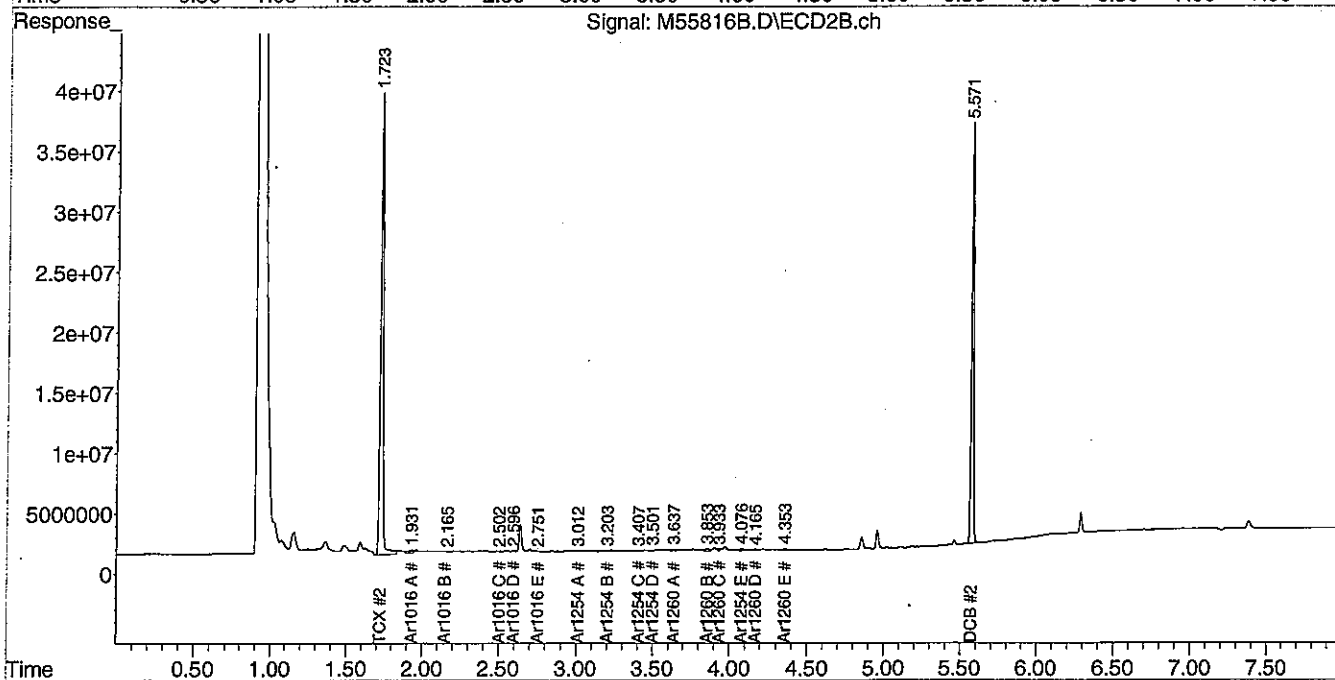
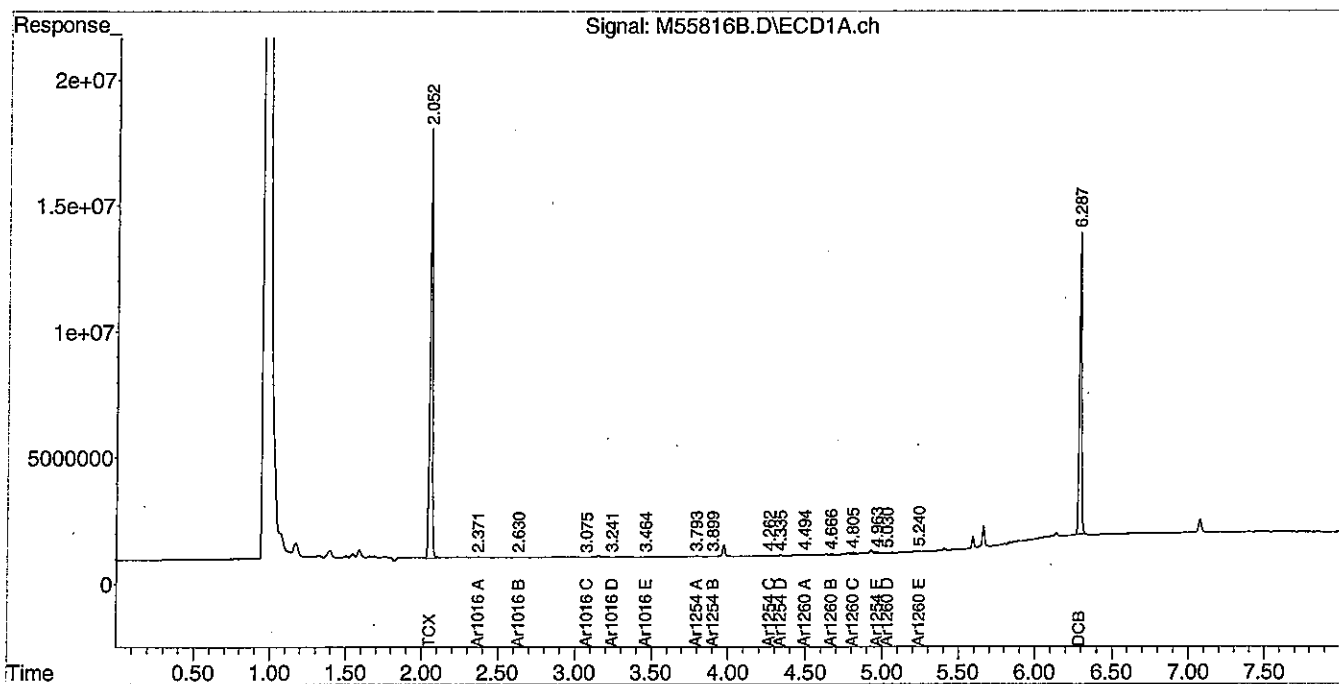
**COMMENTS:**



Data Path : C:\msdchem\1\DATA\032612-M\  
 Data File : M55816B.D  
 Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
 Acq On : 26 Mar 2012 2:51 pm  
 Operator : JK  
 Sample : B032312PSOXW,,A/C  
 Misc : SOIL  
 ALS Vial : 6 Sample Multiplier: 1

Integration File signal 1: events.e  
 Integration File signal 2: events2.e  
 Quant Time: Mar 26 22:17:09 2012  
 Quant Method : C:\msdchem\1\METHODS\PCB012712.M  
 Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
 QLast Update : Mon Mar 26 16:20:40 2012  
 Response via : Initial Calibration  
 Integrator: ChemStation

Volume Inj. : 2 uL  
 Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
 Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



Ms. Amy Wallace  
Woodard & Curran  
41 Hutchins Drive  
Portland ME 04102

March 27, 2012

**SAMPLE DATA**

**CLIENT SAMPLE ID**  
**Project Name:** Peabody Terrace  
**Project Number:** 210980  
**Field Sample ID:** PTF-VWA-N-2402

**Lab Sample ID:** 72406-1  
**Matrix:** Wipe  
**Percent Solid:** N/A  
**Dilution Factor:** 1.0  
**Collection Date:** 03/23/12  
**Lab Receipt Date:** 03/23/12  
**Extraction Date:** 03/23/12  
**Analysis Date:** 03/26/12

**PCB ANALYTICAL RESULTS**

| COMPOUND   | Quantitation<br>Limit µg/wipe | Results<br>µg/wipe |
|--|-------------------------------|--------------------|
| PCB-1016   | 0.5                           | U                  |
| PCB-1221   | 0.5                           | U                  |
| PCB-1232   | 0.5                           | U                  |
| PCB-1242   | 0.5                           | U                  |
| PCB-1248   | 0.5                           | U                  |
| PCB-1254   | 0.5                           | U                  |
| PCB-1260   | 0.5                           | U                  |
| PCB-1262   | 0.5                           | U                  |
| PCB-1268   | 0.5                           | U                  |
| <b><u>Surrogate Standard Recovery</u></b>                                |                               |                    |
| 2,4,5,6-Tetrachloro-m-xylene   | 78                            | %                  |
| Decachlorobiphenyl   | 51                            | %                  |
| U=Undetected J=Estimated E=Exceeds Calibration Range B=Detected in Blank |                               |                    |

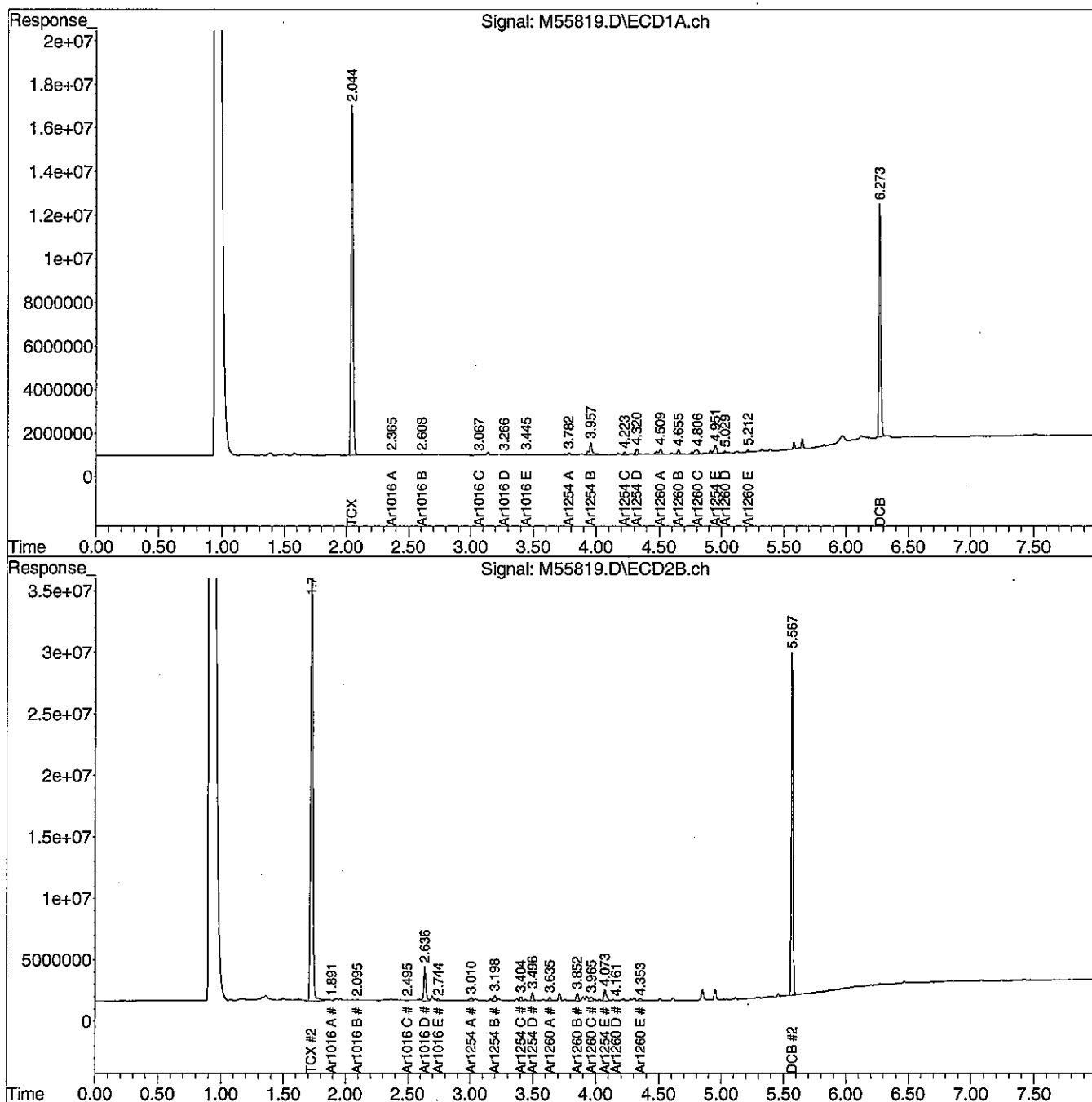
**METHODOLOGY:** Sample analysis conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 8082.  
Sample preparation conducted according to Test Methods for Evaluating Solid Waste, SW-846 Method 3540C.  
Sample cleanup was conducted according to SW-846 Method 3665A.

**COMMENTS:**

Data Path : C:\msdchem\1\DATA\032612-M\  
Data File : M55819.D  
Signal(s) : Signal #1: ECD1A.ch Signal #2: ECD2B.ch  
Acq On : 26 Mar 2012 3:21 pm  
Operator : JK  
Sample : 72406-1,,A/C  
Misc : SOIL  
ALS Vial : 9 Sample Multiplier: 1

Integration File signal 1: events.e  
Integration File signal 2: events2.e  
Quant Time: Mar 26 22:37:22 2012  
Quant Method : C:\msdchem\1\METHODS\PCB012712.M  
Quant Title : SW-846 METHOD 8082 Aroclor 1016/1260/1254  
QLast Update : Mon Mar 26 22:34:37 2012  
Response via : Initial Calibration  
Integrator: ChemStation

Volume Inj. : 2 uL  
Signal #1 Phase : STX-CLPPesticides Signal #2 Phase: STX-CLPPesticides  
Signal #1 Info : 30 m x 0.25mm x 0 Signal #2 Info : 30 m x 0.25mm x 0.25 um



PCB  
QC FORMS



PCB WIPE  
LABORATORY CONTROL SAMPLE/DUPLICATE  
PERCENT RECOVERY

Instrument ID: M

GC Column #1: STX-CLPesticides I

Column ID: 0.25 mm

GC Column #2: STX-CLPesticides II

Column ID: 0.25 mm

SDG: 72406

Non-spiked sample: B032312PSOXW,,A/C

Spike: L032312PSOXW,,A/C

Spike duplicate: LD032312PSOXW,,A/C

|             | LCS SPIKE       | LCSD SPIKE      | LOWER | UPPER | RPD   | NON-SPIKE        | SPIKE            |       | SPIKE |                  | SPIKE DUP |   | SPIKE DUP |   |  |  |
|-------------|-----------------|-----------------|-------|-------|-------|------------------|------------------|-------|-------|------------------|-----------|---|-----------|---|--|--|
| COMPOUND    | ADDED (ug/wipe) | ADDED (ug/wipe) | LIMIT | LIMIT | LIMIT | RESULT (ug/wipe) | RESULT (ug/wipe) | % REC | #     | RESULT (ug/wipe) | % REC     | # | RPD       | # |  |  |
| PCB 1016    | 2.0             | 2.0             | 65    | 140   | 30    | 0                | 1.5              | 77    |       | 1.6              | 79        |   | 1.4       |   |  |  |
| PCB 1260    | 2.0             | 2.0             | 60    | 130   | 30    | 0                | 1.6              | 81    |       | 1.6              | 82        |   | 2.2       |   |  |  |
| PCB 1016 #2 | 2.0             | 2.0             | 65    | 140   | 30    | 0                | 1.7              | 84    |       | 1.7              | 83        |   | 1.1       |   |  |  |
| PCB 1260 #2 | 2.0             | 2.0             | 60    | 130   | 30    | 0                | 1.7              | 86    |       | 1.7              | 87        |   | 1.6       |   |  |  |

# Column to be used to flag recovery and RPD values outside of QC limits

\* Values outside QC limits

LCS/LCSD spike added values have been weight adjusted.

Non-spike result of "0" used in place of "U" to allow calculation of spike recovery.

Comments: \_\_\_\_\_  
\_\_\_\_\_

## CHAIN OF CUSTODIES

# Chain Of Custody Form

|  |  |  |  |
|--|--|--|--|
| <b>environmental laboratory LLC</b><br>195 Commerce Way Suite E<br>Portsmouth, NH 03801<br>Phone (603) 438-5111<br>Fax (603) 430-2151  |  | <b>For Analytics Use Only</b> Rev. 4 03/28/08  |  |
| Project# 210980 Proj. Name: <u>Peabody Terrace</u><br>Company: <u>Woodard &amp; Curran</u><br>Contact: <u>Amy Wallace</u><br>Address: <u>41 Hutchins Drive</u><br><u>Portland Maine</u><br>Phone: <u>207-774-2112</u> PO# <u>          </u> Quote # <u>          </u><br>Sampler (Signature): <u>Jin Russell</u> |  | Samples were:<br>1) Shipped <u>hand-delivered</u><br>2) Temp blank °C <u>3.4</u><br>3) Received in good condition <u>Y</u> or N<br>4) pH checked by: <u>N/A</u><br>5) Labels checked by: <u>CS 3/23/12</u>   |  |
| Matrix Key:<br>C = Concrete<br>WP = Wipe<br>WW = Wastewater<br>SW = Surface Water<br>GW = Groundwater<br>DW = Drinking Water<br>S = Soil/Sediment<br>O = Oil<br>E = Extract<br>X = Other   |  | Container Key<br>P = plastic G = glass   |  |
| Preservation<br>Unpres <input type="checkbox"/> H <sub>2</sub> O <sub>2</sub> <input type="checkbox"/> HCl <input type="checkbox"/> Methanol <input type="checkbox"/> Other <input type="checkbox"/>   |  | pH Analytics Sample #<br>72406-1   |  |
| Station Identification<br>RTF-VWA-N-2402 3/23/12 0930  |  | Analysis<br>PCBs   |  |
| Sample Date<br>3/23/12   |  | Sample Time<br>0930  |  |
| Date: <u>3/23/12</u> Time: <u>12:30</u>  |  | Date: <u>3/23/12</u> Time: <u>12:30</u>  |  |
| Received By: <u>Jin Russell</u>  |  | Received By: <u>Jin Russell</u>  |  |
| Comments / Instructions:<br>Email Results to: <u>shane@woodardcurran.com</u><br><u>AWallace@</u><br><u>JRussell@</u><br>Turnaround Request <input checked="" type="checkbox"/> Priority <input checked="" type="checkbox"/><br>Due Date <u>4/8/12</u>  |  | Project Requirements:<br>Report Type <input checked="" type="checkbox"/> MCP <input type="checkbox"/> Level II <input type="checkbox"/> Level III <input type="checkbox"/> Level IV <input type="checkbox"/> Standard<br>State: <input type="checkbox"/> NH <input checked="" type="checkbox"/> MA <input type="checkbox"/> ME <input type="checkbox"/> CT <input type="checkbox"/> RI<br>(eg. S-1 or GW-1)<br>EDD Required: Y* N<br>Type: <u>GIS Key</u><br>Other: <u>          </u><br>Page <u>1</u> of <u>1</u> |  |



## ANALYTICS SAMPLE RECEIPT CHECKLIST



AEL LAB#: 72406  
 CLIENT: Woodward & Curran  
 PROJECT: Peabody Terrain

COOLER NUMBER: 274  
 NUMBER OF COOLERS: 1

## A: PRELIMINARY EXAMINATION:

1. Cooler received by (initials): DV DATE COOLER RECEIVED/OPENED: 3/23/12
2. Circle one: Hand delivered (If so, skip 3) Shipped
3. Did cooler come with a shipping slip? Y (NA)
- 3a. Enter carrier name and airbill number here: \_\_\_\_\_
4. Were custody seals on the outside of cooler? Y (NA)  
 How many & where: \_\_\_\_\_ Seal Date: \_\_\_\_\_ Seal Name: \_\_\_\_\_
5. Did the custody seals arrive unbroken and intact upon arrival? Y (NA)
6. COC#: N/A
7. Were Custody papers filled out properly (ink, signed, legible, project information etc)? (Y) N
8. Were custody papers sealed in a plastic bag? Y (N)
9. Did you sign the COC in the appropriate place? (Y) N
10. Was enough ice used to chill the cooler? (Y) N Temp. of cooler: 3, 4

## B. Log-In: Date samples were logged in:

3/23/12

By:

DV

11. Were all bottles sealed in separate plastic bags? (Y) N
12. Did all bottles arrive unbroken and were labels in good condition? (Y) N
13. Were all bottle labels complete (ID, Date, time, etc.)? (Y) N
14. Did all bottle labels agree with custody papers? (Y) N
15. Were the correct containers used for the tests indicated? (Y) N
16. Were samples received at the correct pH? Y (NA)
17. Was sufficient amount of sample sent for the tests indicated? (Y) N
18. Were all samples submitted within holding time? (Y) N
19. Were VOA samples absent of greater than pea-sized bubbles? Y (NA)

(Note: Pea-sized bubbles or smaller are acceptable and are not considered to adversely affect volatiles data.)

If NO, List Sample ID's, Lab #s: \_\_\_\_\_

\*When bubbles are present in VOA samples they are labelled from smallest (or no bubbles) to largest. Lab to analyze VOA samples with no bubbles or smallest bubbles first

20. Laboratory labeling verified by (initials):

Q

Date:

3/23/12